

# PSYCHOLOGICAL ABSTRACTS

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## GENERAL

4087. Anderson, M. A. Realism and some of its critics. *Australasian J. Psychol. & Phil.*, 1930, 8, 113-134.—A defence of realism as opposed to monism, dualism and relativism.—M. Drury Smith (Cambridge, England).

4088. [Anon.] Johannes von Kries. *J. Organotherapie*, 1930, 14, 211-213.—An account of some features of his life. Portrait.—C. H. Graham (Clark).

4089. [Anon.] Zum 70. Geburtstag von Professor Dr. Ernst von Düring. (The 70th birthday of Professor Dr. Ernst von Düring.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—R. B. Willoughby (Clark).

4090. [Anon.] I. Religionspsychologische Kongress zu Erfurt. (First congress for religious psychology (Erfurt).) *Zentbl. f. Psychotherap.*, 1930, 3, 323-324.—The program of meetings, with the titles of the main papers to be read, of the first congress for religious psychology, held at Erfurt from the 27th to the 29th of June, 1930.—D. E. Johanssen (Rochester).

4091. Barrett, J. F. Elements of psychology for nurses. Milwaukee: Bruce, 1930. Pp. xiv + 326. \$2.50.—This is a text for use in Catholic institutions. In addition to some of the material usually covered by scientific psychologists, the author includes a discussion of mental faculties and devotes a considerable part of the book to chapters dealing with the origin, nature and immortality of the soul and the "unison of soul and body." He criticizes the theory of evolution and dogmatically affirms "creationism." Mental telepathy is sympathetically discussed and hypnosis is labeled as "dangerous and morally detestable." A section on individual differences consists of several generalizations. There are chapters dealing with the abnormal mind, psychotherapy, and character.—F. McKinney (Chicago).

4092. Boring, E. G. A new ambiguous figure. *Amer. J. Psychol.*, 1930, 42, 444-445.—A reproduction of a puzzle-picture, superior to most of the better known puzzle-pictures, because of the fact that neither figure is favored over the other, although both figures interpenetrate the same region of the total field.—D. E. Johanssen (Rochester).

4093. Böschenstein, —. Die Psychologie in Amerika. (Psychology in America.) *Psychol. Rundschau*, 1929, 1, No. 8.—R. R. Willoughby (Clark).

4094. Brugmans, H. J. F. W. Heymans als psycholoog. (Heymans as a psychologist.) *Mensch en Maatschappij*, 1930, 6, 217-229.—In this lecture on Heymans' work and leading ideas the author points out at the start, that while *psychological* in his whole scientific approach, even to philosophy, Heymans avoids being *psychologistic* by clearly recognizing the line between psychology and epistemology, and limiting himself, *qua* psychologist, to the former. He is

thus an empirical psychologist, but this fact does not mean that he recognizes only quantitative values. His "differential psychology" clearly shows that he is also much interested in qualitative ones. One of his most important investigations in his study of personality types based upon differences in emotionality and in quickness and strength of reaction, established and tested through personality studies, questionnaires, etc. Another important study in the field of special psychology is his work on *The Psychology of Women*. In both these studies qualitative as distinct from purely statistical observations were necessarily prominent. Brugmans analyzes these studies and then discusses Heymans' work in general psychology. In this field the latter's researches include studies of illusions, sensory thresholds, and especially of psychological inhibition in its relation to Weber's law. In concluding his discussion the author again stresses his subject's broad grasp of psychology as an independent science, to which both the strictly explanatory and the "understanding" points of view can contribute.—E. M. Püpel (New York City).

4095. Cimbali, —. Prof. Dr. E. Trömmner. (Obituary of Prof. E. Trömmner.) *Zentbl. f. Psychotherap.*, 1930, 3, 321-322.—A brief summary of the life of Trömmner, president of the Allgemeinen ärztlichen Gesellschaft für Psychotherapie, who died May 27, 1930.—D. E. Johanssen (Rochester).

4096. D(allenbach), K. M. Ithaca meeting of the Experimental Psychologists. *Amer. J. Psychol.*, 1930, 42, 469.—Note on the 1930 meetings, held at Cornell, April 17-19. Members present are listed. The meeting in 1931 will be held at Vassar.—D. E. Johanssen (Rochester).

4097. Diblee, G. B. Instinct and intuition. London: Faber & Faber, 1929. Pp. 394. 25/.—The economic laws of demand show the importance of principles of value. A study of principles of value demonstrates the frequency with which considered judgment is overridden by unformulated motives. The consideration of these unformulated motives leads to a study of instinct and intuition. Instinct is a kind of intelligence common to men and other animals and enabling immediate judgments to be pronounced on the merits of sensations and on their validity. Intuition is a mode of intelligence unconsciously exercised by man only among the animals. The author discusses these views with a wealth of reference and illustration, considering in particular the relation of both instinct and intuition to reason, their reactions one upon the other, the probable physiological basis of both, and the dualistic view of mental life to which his position leads. Throughout he is much influenced by the work of the late W. H. R. Rivers, Henry Head and John Parsons.—F. C. Bartlett (Cambridge, England).

4098. Dodd, L. E. Field of view in the oclinometer. *J. Opt. Soc. Amer.*, 1930, 20, 367-380.—The

oclinometer is schematically described. It is an apparently new type of optical instrument using plane mirrors rather than refracting prisms for the measurement and correction of muscular imbalance, for measuring the range of fusion in normal eyes, and in general permitting convergence independent of accommodation. The derivation of geometrical expressions incidental to the design of the instrument is given.—D. B. Judd (Bureau of Standards).

4099. Guilford, J. P., & Wilke, M. A new model for the demonstration of facial expressions. *Amer. J. Psychol.*, 1930, 42, 436-439.—The authors describe a new model face, similar in principle to the Titchener-Boring face, but improved in its range by being a full front view instead of a profile.—D. E. Johanssen (Rochester).

4100. Hull, C. L., Krueger, E. G., & Williams, G. W. A portable phonographic apparatus for giving objectively uniform suggestions. *Amer. J. Psychol.*, 1930, 42, 442-444.—Description of an apparatus for giving hypnotic suggestions by phonograph, and thereby rendering them perfectly constant, both from subject to subject and from time to time.—D. E. Johanssen (Rochester).

4101. Ives, H. E. Parallax panoramagrams made with a large diameter lens. *J. Opt. Soc. Amer.*, 1930, 20, 332-342.—A method for making pictures which exhibit depth when viewed binocularly in conjunction with a grating is described. The usual moving lens is dispensed with.—D. B. Judd (Bureau of Standards).

4102. Ives, H. E. The chromolinoscope revived. *J. Opt. Soc. Amer.*, 1930, 20, 343-353.—A method is described by means of which the chromolinoscope (patented in 1901 by F. E. Ives) may be adapted for viewing as transparencies single pictures of the widely available Kodacolor film.—D. B. Judd (Bureau of Standards).

4103. Jaensch, E. R. Über den Aufbau des Bewusstseins. *Tl. I.* (The structure of consciousness. I.) Leipzig: Barth, 1930.—R. R. Willoughby (Clark).

4104. Jolowicz, E. Bewusstsein und Bewusstheiten. (Consciousness and the elements of consciousness.) *Zentbl. f. Psychotherap.*, 1930, 3, 334-357.—The author contrasts the concept of the ego, as it is presented by Freud, with that presented by Driesch. He then takes up the distinction between *Bewusstsein* and *Bewusstheit*. For him, although experience would be impossible without the former, consciousness (*Bewusstsein*) is not the sum total of experience, but something more. It is continuous with life, with short breaks (sleep, fainting, etc.), and as soon as it comes into being mental experience is present. The conscious contents (*Bewusstheiten*), on the contrary, are qualities which make up experience. The author is particularly interested in the question whether a person is unconscious during hypnosis, and concludes that, although the conscious content of a person under hypnosis is not remembered, he is not strictly speaking unconscious, for he is still capable of so interpreting suggestions as to make them compatible with his normal consciousness.—D. E. Johanssen (Rochester).

4105. Kankeleit, O. V. allgemeine ärztliche Kongress für Psychotherapie. (Fifth general medical congress for psychotherapy.) *Zentbl. f. Psychotherap.*, 1930, 3, 324-334.—Abstracts of the papers read at the fifth congress for psychotherapy, Baden-Baden, April 26-29, 1930.—D. E. Johanssen (Rochester).

4106. Klemm, O., Hunter, W. S., & others. Bibliographie der deutschen und ausländischen Literatur des Jahres 1928 über Psychologie ihre Grenzgebiete und Hilfswissenschaften. *Ausländische Literatur, Schluss.* (Bibliography of German and foreign literature of the year 1928 on psychology and related sciences. Foreign literature, conclusion.) *Arch. f. d. ges. Psychol.*, 1930, 75, 185-279.—Reprint from *Psychological Index*.—K. F. Muenzinger (Colorado).

4107. Lowson, J. P. Mind and body. *Australasian J. Psychol. & Phil.*, 1930, 8, 96-112.—The writer suggests that a more fruitful method of attack on this problem than the philosophical is the application of sound scientific principles. These principles are outlined. Instances are given of their application to the question. The significance of the work of Pavlov and Cannon in this connection is stressed, also that of experimental work on the psychogalvanic reflex.—M. Drury Smith (Cambridge, England).

4108. McLaughlin, A. R. A belt paper kymograph with a three speed gear shift. *Science*, 1930, 72, 71-73.—R. R. Willoughby (Clark).

4109. Merrington, E. N. The art of conversation as practised by Socrates. *Australasian J. Psychol. & Phil.*, 1930, 8, 81-95.—This paper is an "endeavor to enter the great world of Socrates along the pathway of his own choosing, namely, the delightful track of conversation."—M. Drury Smith (Cambridge, England).

4110. Morgan, C. L. Mind at the crossways. New York: Holt, 1930. Pp. 286. \$3.75.—The author distinguishes between scientific description and dramatic explanation, the latter answering the questions: Who made it? Who did it? Viewed scientifically mind, qualified as percipient, is at a crossway, namely, at the emergent passage from percipience to perception. In dramatic regard Mind as creative is not the outcome of emergent evolution but is "timelessly one with the universal and spiritual creativity of God."—B. F. Skinner (Harvard).

4111. Oeser, O. A. Gestalt and the gestalt theory. *Brit. J. Psychol.*, 1930, 21, 73-94.—This is a detailed critical notice of Köhler's book *Gestalt Psychology*. It is also an attack on the claim that nothing so fundamentally new and revolutionary as the *Gestalt* theory has appeared since the time of William James.—M. Drury Smith (Cambridge, England).

4112. Peterson, J. The twenty-fifth annual meeting of the Southern Society for Philosophy and Psychology. *Amer. J. Psychol.*, 1930, 42, 459-469.—Abstracts of the papers read and discussed at the meetings held in Nashville, April 17-18, 1930, are given.—D. E. Johanssen (Rochester).

4113. Pohlman, A. G. Apparatus for the quantitative testing of air and bone transmitted speech. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 5.—R. R. Willoughby (Clark).

4114. Ruckmick, C. A. The uses and abuses of the questionnaire procedure. *J. Appl. Psychol.*, 1930, 14, 32-41.—There are five possible sources of error in the use of the questionnaire procedure: (1) the method stresses categorical answers, often necessarily inaccurate; (2) the uncontrollable nature of the replies; (3) the uncertain nature of the interpretation that is put upon the results; (4) the usual statistical treatments accorded returns from the questionnaire often lend a false glamor to the investigation; (5) unreturned questionnaires and replies left blank are falsely assumed to be half negative and half positive. The advantages: (1) time and scope of inquiry; (2) possibility of furnishing cues for further investigation; (3) natural and inherent principle of formulation. Strictly speaking, the questionnaire is not an experimental method, but a prescientific procedure, antecedent to and dependent upon further experimental research.—G. L. Barclay (Syracuse).

4115. Shook, G. A. Some experiments in mobile color. *J. Opt. Soc. Amer.*, 1930, 20, 354-361.—A series of "color organs" or devices for projecting on a screen lights of varying form and color are described. The filament of an incandescent lamp imaged (somewhat out of focus) on the screen provides the general form or "motif" which is varied by displacement of the lens and by the slow passage through the projecting beam of a series of miscellaneous optical devices, such as prisms, short focus lenses and cylindrical lenses. The colors are varied simultaneously by means of gelatine filters. The optical devices and filters are mounted on separate disks which are rotated by clockwork; the speed of rotation and the position of the lens is controlled by the operator. These organs are more automatic than Wilfred's "Clavilux," but it is reported that audiences respond to the programs with the same esthetic interest as to classical music.—D. B. Judd (Bureau of Standards).

4116. Sombart, W. Das Verstehen. (Understanding.) *Schr. d. Dtsch. Gesellsch. f. Soziol.*, 1929, 6, 208-247.—(*Soc. Sci. Abst.* II: 8495).

4117. Squires, P. C. The Munsell colored papers. *Amer. J. Psychol.*, 1930, 42, 445.—A note to call attention to the fact that the Munsell Color Company of Baltimore manufactures carefully standardized colored papers, arranged in psychologically equal steps, in the "Book of Color."—D. E. Johannsen (Rochester).

4118. Tiffin, J., & Seashore, C. E. The Iowa piano camera. *Science*, 1930, 72, 146-147.—A photographic record is made of the time of incidence, time of ending and hammer velocity of each note struck; this is effected on the principle of removing a shadow cast upon a moving film as often and as long as each hammer is displaced. Time lines are added by interrupting a neon lamp by means of an electrically driven tuning fork.—R. R. Willoughby (Clark).

4119. Vernon, M. D. An apparatus for the photographic recording of eye movements. *Brit. J. Psychol.*, 1930, 21, 64-67.—This paper describes a modification of Dodge's method of recording eye movements photographically. It is reported to work quite

satisfactorily, and by the use of magnification movements of 1° of arc and less are readily measurable. Two diagrams of the apparatus are given.—M. Drury Smith (Cambridge, England).

4120. Wheeler, R. H. Readings in psychology. New York: Crowell, 1930. Pp. x+597. \$3.75.—A selection of twenty-eight readings for the beginning student (five original and twenty-three reprinted articles) to parallel *The Science of Psychology* by the same author. These selections are grouped under seven heads: social behavior; intelligent behavior; emotive behavior; learning; reaction and observational behavior; observational behavior; and the nervous system. Editorial notes before the readings emphasize the configurational viewpoint. The book has references, an index, and a glossary.—P. E. Huston (Worcester State Hospital).

4121. Willemsse, W. A. A new type of sphygmograph. *Brit. J. Psychol.*, 1930, 21, 68-72.—The writer points out the difficulties connected with existing sphygmographs and explains the proposed new form, which, he claims, overcomes to some extent almost all the difficulties. A set of six figures illustrates the new type, by using which he was able to obtain individually different and distinct curves 5 cm. high, instead of curves of only 1½ mm. to 5 mm. in height.—M. Drury Smith (Cambridge, England). [See also abstracts 4134, 4261, 4266, 4298, 4357.]

SENSATION AND PERCEPTION

4122. Alvim, J. F. Signaes oculares da molestia de Bayle. (Ocular signs of Bayle's disease.) *Rev. oto-neur.-oftal.*, 1929, 4, No. 3.—R. R. Willoughby (Clark).

4123. Baud, R. V., & Wright, W. D. The analysis of the colors observed in photoelastic experiments. *J. Opt. Soc. Amer.*, 1930, 20, 381-395.—The data on mixture of color stimuli are applied to calculate the colors of the fringes observed in photoelastic experiments.—D. B. Judd (Bureau of Standards).

4124. Boring, E. G. The two-point limen and the error of localization. *Amer. J. Psychol.*, 1930, 42, 446-449.—The author discusses and compares the results of various experiments on the two-point limen and the error of localization, and concludes that there is no ground for the belief that the two are separate fundamental physiological mechanisms. A schema is presented to show the relationship between the two measures, and to explain the reason for the fact that the two-point limen is about 3 times as large as the error of localization, although both may well be measures of the same discriminatory capacity.—D. E. Johannsen (Rochester).

4125. Forsythe, W. E., & Christison, F. Ultraviolet radiation from the sun and heated tungsten. *J. Opt. Soc. Amer.*, 1930, 20, 396-410.—D. B. Judd (Bureau of Standards).

4126. Godlove, I. H. The wave lengths of complementary hues. *J. Opt. Soc. Amer.*, 1930, 20, 411-418.—Extending the work of Priest and Grünberg on the hyperbolic relationship between the wave lengths of complementaries, the author presents a method of rectifying the hyperbolae which suggests a

simple way to treat these data statistically. The interpretation of individual curves is facilitated.—D. B. Judd (Bureau of Standards).

4127. Graham, C. H. The relation between area and intensity of visual thresholds. *Amer. J. Psychol.*, 1930, 42, 420-422.—Analysis of the work of Reeves and of Hecht shows that the relation between intensity and area can be described by an equation of the general type  $y = kx^n$ . In the case of both the star used as a stimulus object by Reeves and the square used by Hecht, the equation is  $AI^{1.5} = K$ , where  $A$  is the area of the retinal image in sq. mm.,  $I$  is the intensity in ml., and  $K$  is a constant. In the case of the square there is a marked deviation from a straight line curve for the last two thresholds, (the two largest areas). The possibility that this is produced by the cosine effect, which for the larger areas might cause a definite change in brightness, is considered, but the question remains to be solved.—D. E. Johannsen (Rochester).

4128. Graham, C. H., & Nafe, J. P. Human intensity discrimination with the Watson-Yerkes apparatus. *J. Genet. Psychol.*, 1930, 37, 220-231.—The fact that in none of the experiments on brightness discrimination employing the Yerkes-Watson or similar apparatus has any animal ever shown a high degree of discrimination, led to the query whether this might not be due to the character of the apparatus; and it was tried on human subjects for comparison with the König-Brodhun curve. Obtained results showed that human brightness discrimination as measured by this apparatus is exceedingly gross as compared with the standard curve of brightness discrimination for human beings. There is some discussion as to the disadvantage of the Watson-Yerkes apparatus, with the implication that some more refined method of measuring should be used wherever possible.—J. F. Dashiell (North Carolina).

4129. Helmoortel, J., Jr., & Nyssen, R. Etude de la douleur accompagnant les excitations auditives intensives. (Study of the pain accompanying intensive auditory excitation.) *Rev. oto-neur.-ofal.*, 1929, 4, No. 11.—R. R. Willoughby (Clark).

4130. Kenneth, J. H., & Thouless, R. H. Relationship between the absolute and differential thresholds for an auditory stimulus. *Amer. J. Psychol.*, 1930, 42, 389-398.—The problem of the present experiment was to determine whether the absolute and differential thresholds represent different phenomena, or whether the former is merely the limiting value of the latter, obtained when the lower of the presented stimuli is made equal to 0. The stimulus was a note of 724 d.v./s. produced in a loud-speaker attachment to a gramophone; the intensity of the sound was regulated by means of two inductionless resistances. The results show that the two thresholds are continuous with each other; no new law emerges when the value of the absolute threshold of the stimulus is passed. It was also found that Weber's law is very far from being fulfilled for low stimulus values. In this range of the scale the absolute value of  $\Delta y$  is nearly, though not absolutely, constant.—D. E. Johannsen (Rochester).

4131. Kraus, O. Zur Phänomenognois des Zeitbewusstseins. (Concerning the study of the phe-

nomena underlying the consciousness of time.) *Arch. f. d. ges. Psychol.*, 1930, 75, 1-24.—The occasion for this publication of a bit of correspondence between Marty and Brentano and a lecture by the former on the consciousness of time is a book of lectures on the same topic delivered by Husserl and edited by Heidegger. It appears that Husserl criticizes a theory which was presented by Brentano in his earlier lectures and changed in his later ones. Kraus assumes that Husserl knew about this change and takes him to task for not having mentioned it. In his older theory Brentano, like J. S. Mill, takes the perception of time to be a perception of a continuum of differences of judgments about the same objects. In his later theory the perception of time is a continuous modification of the process of perception itself, as the published correspondence and lecture indicate.—K. F. Muensinger (Colorado).

4132. Lowenstein, E., & Dallenbach, K. M. The critical temperatures for heat and for burning heat. *Amer. J. Psychol.*, 1930, 42, 423-429.—100 O's were stimulated by temperatures varying from 40° to 51° (steps of 1°), and were asked to describe the experience. It was found that heat was reported from 40° to 46°, with an average of 42.87°. Burning heat was reported from 43° to 51°, with an average of 47.09°. The difference between the limen for heat and for burning heat varied from 1° to 8° (average 4.22°). These results confirm those of an earlier experiment, in which burning heat was found to be an integration of heat and pain.—D. E. Johannsen (Rochester).

4133. Maerz, A., & Paul, M. R. A dictionary of color. New York: McGraw-Hill, 1930. Pp. 207. \$12.00.—R. R. Willoughby (Clark).

4134. Moore, M. G. Gestalt vs. experience. *Amer. J. Psychol.*, 1930, 42, 453-455.—Criticism of the work of Gottschaldt on the effect of experience on spatial configurations. Gottschaldt found that even numerous repetitions of a figure did not enable an O to find it more quickly when it was concealed in a subsequently presented figure. Gottschaldt concludes that experience is insufficient to overcome the autochthonous Gestalt factors; the present author objects to the further conclusion that "of the great original claims of the empiricists very little is left," for the cited investigation has nothing to say regarding the genesis of the autochthonous Gestalt factors.—D. E. Johannsen (Rochester).

4135. Richardson, L. F., & Maxwell, R. S. The quantitative mental estimation of hue, brightness, or saturation. *Brit. J. Psychol.*, 1930, 20, 365-367.—This paper is a reply to one by T. Smith in the same journal. In the latter, some findings given in a previous paper by Richardson and Maxwell were criticized. This paper defends the earlier attack upon William James' dictum about pink and scarlet.—M. Drury Smith (Cambridge, England).

4136. Schlegel, W. Die Abhängigkeit des Umfanges der tachistoskopischen Neuauffassung von der Intensität des Reizes. (The dependence of the extent of the tachistoscopic perception on the intensity of the stimulus.) *Arch. f. d. ges. Psychol.*, 1929, 70, No. 3/4.—R. R. Willoughby (Clark).

4137. Smith, T. The quantitative estimation of the sensation of colour. *Brit. J. Psychol.*, 1930, 20,

362-364.—This is a criticism of a paper by Richardson and Maxwell which appeared in an earlier number of this journal. The writer suggests that the results of their work, in which they attempted to controvert William James' statement that "to introspection, our feeling of pink is surely not a portion of our feeling of scarlet," might have had a different significance. He also suggests that their inquiry was not suitably framed for the elucidation of the question.—*M. Drury Smith* (Cambridge, England).

4138. White, R. K., & Landis, C. Perception of silhouettes. *Amer. J. Psychol.*, 1930, 42, 431-435.—Using two silhouettes, one a standard (invariable) and the other a variable one, 40 subjects, college students and children under 10 years, were tested. E asked the questions about the two faces orally. The least perceptible difference which could be seen between the variable and the invariable face was determined for both groups, and was found to be much larger for the children. In general, the more nearly the variable face resembled the standard face, the more pleasant it proved to be, and the more favorable the characteristics attributed to it. Various problems of esthetics which might be solved by some such method are suggested.—*D. E. Johanssen* (Rochester). [See also abstracts 4092, 4098, 4101, 4117, 4145, 4226, 4264, 4270, 4313, 4349, 4432, 4502, 4517, 4540.]

## FEELING AND EMOTION

4139. Beebe-Center, J. G. The relation between affectivity and specific processes in sense-organs. *Psychol. Rev.*, 1930, 37, 327-333.—A hypothesis is advanced concerning affectivity as follows: "Affectivity depends upon a specific type of process in sense-organs; namely, that which under sensory instructions or their equivalent mediates bright and dull pressure. When this type of process occurs under affective instructions or their equivalent it gives rise to absolute or relative affective experiences." The author claims for the hypothesis that it "accounts easily for the variability of affective judgments, the long latent time of affectivity, the close relation of affectivity to movements and appetites, and the hitherto inexplicable divergence between results of experiments on the nature of affection," and seems open to experimental verification.—*A. G. Bills* (Chicago).

4140. Bekhterev, V. [The emotions as mimio-somatic reflexes.] *Nov. refl. fiziol. nerv. sist.*, 1929, 3, 17-31.—Contemporary psychological theories offer inadequate explanations of emotion. According to the physiological investigations of Cannon and others, changes in glandular activity constitute the basis of emotional states. Emotions are expressed through various modifications in heart action, vascular expansion or contraction, acceleration or diminution in breathing. These changes are accompanied by excitation or inhibition of associated reflexes, as well as by mimetic movements. Consequently, the emotions may be termed mimio-somatic reflexes in accordance with their physiological nature. Phylogenetically considered, these reflexes appear to have survival value in preparing the individual for attack or defense. The nervous mechanism involved is located in the

optic-striate system.—*A. V. Yarmolenko* (Leningrad).

4141. Crookshank, F. G. Organ-states and emotional correlatives. *Psyche*, 1930, 10, 65-79.—Individual psychology considers the various manifestations in neurosis or in disease, as if exemplifying the individual's life-plan of campaign, and designed to afford him protection, security, or justification during his conduct of life. There are, in the first place, normal organ-state correlations of normal emotions, as in the love emotion and its physiological expression. In the second place there are unusual correlations on the part of people who do not consider themselves diseased. In such cases the organ-state is not correlated with a simple, frank emotion, but with a conflict and a compromise. In the third place, there are those who complain of organic illness, but the individual-psychologist finds the evidence indicative of some aim, goal, wish, or desire on the part of the individual. These manifestations may prove to be normal and specific correlations unrecognized by the patient; complaints susceptible to symbolic interpretation; organ-states providing solutions to present problems; correlations determined by association with a set of experiences particular to the individual. The individual-psychologist abolishes the verbal distinctions between organic and functional, and the verbal differentiations made by doctors between objective and subjective signs of disease.—*E. R. Hilgard* (Yale).

4142. Newman, E. B., Perkins, F. T., & Wheeler, R. H. Cannon's theory of emotion: a critique. *Psychol. Rev.*, 1930, 37, 305-326.—The authors attack Cannon's arguments against the James-Lange theory, and for his own theory of emotion, on eight counts: (1) He is inconsistent in accepting postural factors as evidence of emotion in animals and anesthetized subjects, while denying that postures have any rôle in emotion. (2) Lack of specificity of organic changes is no argument, since organic changes may be the necessary yet not always the differentiating features. (3) Relative visceral insensitivity in normal conditions is no argument, since emotions are crises. (4) The diffuseness of visceral innervation favors rather than weakens the James-Lange theory. (5) The temporal course of emotional experience proves visceral and postural changes essential. (6) Marañon's work on artificial conditions favors rather than disproves James, because it shows that the whole pattern must be present. (7) The clinical evidence for concluding that the thalamus is the seat of emotion is inconclusive. (8) The neural organization required in Cannon's theory presents insurmountable difficulties. In conclusion, the authors postulate the theory that cortical, thalamic, organic, and peripheral conditions are all necessary to the integral emotion, and most important of all is the interpretation of the situation.—*A. G. Bills* (Chicago).

4143. Wembridge, E. R. Emotion in the court room. *Amer. Mercury*, 1929, 17, 48-53.—The author describes the appearance of strong emotions in the court room, commenting on the fact that the people who display them are obviously proud of them. Certain racial comparisons are made, especially as regards the emotional attitude of men toward women.

The author concludes that all races express their emotions by much the same externally visible muscular reactions, and that these are a more reliable indication of the real state of their feeling than their vocal reactions.—J. T. Metcalf (Vermont).

[See also abstracts 4138, 4313, 4398.]

#### ATTENTION, MEMORY AND THOUGHT

4144. Carr, H. Teaching and learning. *J. Genet. Psychol.*, 1930, 37, 189-219.—A summary is given of many researches, mostly conducted in the Chicago laboratory, on many aspects of the problem of guided versus unguided learning. With maze technique have been tested the efficacy of mechanical, manual, visual, graphical and verbal guidance in varying forms, with both rat and human subjects; and with a rational problem technique have been tested methods of demonstration, attention, and different instruction forms. The effects of all such "teaching" methods varied with the amount of teaching, with the point of the learning process where introduced, and other factors, being for the most part, but not invariably, advantageous. In the learning of the rational problem tuition had a disadvantageous effect on the learning of a new similar problem. Some theoretical consideration is given the laws of exercise and of effect. Attention is especially called to the fact that present-day academic problems of teaching and learning are based upon tradition and opinion and not upon scientific knowledge.—J. F. Dashiell (North Carolina).

4145. Gengerelli, J. A. Some quantitative experiments with eidetic imagery. *Amer. J. Psychol.*, 1930, 42, 399-404.—The author reports results from experiments on two O's, both girls, one 11 and one 15 years old; the older was by far the more strongly endowed with eidetic imagery. The method was to present a series of seven circles (in irregular order), whose radii increased regularly by 2 mm., from 15 mm. to 27 mm. These were presented for 5 sec. and then O was asked to project the image upon a standard square (42 mm. on a side), and report whether the image was larger, smaller, or equal in size to the square. The experiment was repeated with stimuli whose radii differed by 1 mm., and again with stimuli whose radii differed by 0.5 mm. The results in every case showed a surprising uniformity, but the results of the older girl were invariably the more accurate. It was also found that the size of the image decreases as the distance at which it is projected is increased. It is suggested that the method of constant stimuli may well be used to study quantitatively eidetic imagery, and perhaps visual imagery in general.—D. E. Johanssen (Rochester).

4146. Gurian, W. Das Problem der Intelligenz. (The problem of intelligence.) *Schildgenossen*, 1930, 2, 175-189.—A. Römer (Leipzig).

4147. Hübel, W. Über psychische Geschwindigkeiten und ihre gegenseitigen Beziehungen. (Speeds of mental processes and their reciprocal relationships.) *Zsch. f. angew. Psychol.*, 1930, 35, 447-496.—As a result of certain observations carried on at Graz it was found that intelligence was positively correlated with the speed of mental process. This led to the question whether the correlation held for all mental

processes or for a few only. It is this question that the present paper studies. Particularly the author was interested in the question of the degree of relationship between the speeds of different mental processes. The activities investigated were: association, concrete and abstract; speed of arm movement; reaction time; perception; attention. On the basis of the correlation coefficients (rank method) he finds that the speeds of association, arm-movement, and reaction time are closely related (range of correlation .59 to .94) indicating that they may be results of the same factor. On the other hand, the speed of the perceptual process seems to be an independent function, as does the speed of shifting the attention. This would indicate, according to the author, that intelligence is not positively correlated with the speeds of all mental processes.—R. H. Waters (Arkansas).

4148. Koch, H. L. Some factors affecting the relative efficiency of certain modes of presenting material for memorizing. *Amer. J. Psychol.*, 1930, 42, 370-388.—Using 7 different methods of presentation—visual, auditory, visual-auditory, and four different methods of alternating the two—12 nonsense syllables were learned to the point of being able correctly to anticipate the entire list once. 14 college girls were used as subjects. The method of response was either written or oral, the entire group of methods being used with each method of response. The results indicate that the factors being studied are so complicated as to make it difficult to determine whether any one method of presentation is actually "better" than any other. In general, the relative efficacy of the various types seems to be a function of the measure on the basis of which an evaluation is made, the stage in the learning at which the estimates of accomplishment are taken, the degree of S's familiarity with the material, and the form of recording. The simultaneous combination of the visual and auditory presentation was rather uniformly superior, and the simple auditory uniformly inferior. Vocimotor recording responses tended to beget better results than manumotor ones. Practice seems to reduce whatever advantages accrue from variety in presentation form (the combination forms).—D. E. Johanssen (Rochester).

4149. McGeoch, J. A. On the term "retroactive inhibition." *Amer. J. Psychol.*, 1930, 42, 455-457.—The author admits that Peterson's criticism against the use of the term "retroactive inhibition" (*Amer. J. Psychol.*, 1929, 41, 504) is justified if the term is taken in its literal meaning. He urges its continued use, however, if it is clearly understood that it is metaphorical; it can lead to no confusion if it is accurately defined as a phenomenon, with no implication of an explanation.—D. E. Johanssen (Rochester).

4150. Nöth, E. J., & Guilford, J. P. Sex differences and the method of continuous lists. *Amer. J. Psychol.*, 1930, 42, 415-419.—Repeating the work of Jastrow, Manchester and Calkins on free association, the authors find for two different groups of men and women (20 of each in the first group and 30 of each in the second), that the results of Jastrow and Manchester are very largely confirmed. There tends to be a greater community of associations among the women, (i.e., the men give more variable responses),

and the women tend to respond with words indicating static, the men with words indicating dynamic relationships. The fact that the sex differences found in the present experiment are smaller than those found by the earlier authors (work done in 1895 and 1905), might indicate that the sex differences are really decreasing. It was also found that the papers written in the shortest time, by both men and women, show more mental community than those written in the longest time. There may be some causal connection between this fact and the greater community of women in the method of continuous lists, for their writing time, on the average, is shorter than that of the men.—*D. E. Johanneen* (Rochester).

4151. Richardson, L. F. Note on "The analogy between mental images and sparks." *Psychol. Rev.*, 1930, 37, 364.—*A. G. Bills* (Chicago).

4152. Scola, F. Untersuchungen zur Frage der automatischen Reproduktion. (Studies concerning the question of automatic reproduction.) *Arch. f. d. ges. Psychol.*, 1930, 75, 23-144.—The purpose of this experimental study was to investigate whether or not automatic reproduction occurred at all. Reproduction is said to be automatic if one conscious state calls up another without any additional agency, such as attitude, determining tendency, etc. Figures consisting of two parts and words made up of two nonsense syllables were presented to the observers in such a way that they memorized them without being aware of the intention of the experimenter that they were to do so. This was accomplished by having them attend to a pseudo-task (*Deckaufgabe*) in which the experimental material seemed to have a subordinate place. In the second phase of the experiments one part only of these complexes was presented in a similar way, whereby the observer was given a chance to reproduce the other part or the whole. Besides the use of a pseudo-task the author relied on the introspections of the observers in order to make certain that no determining tendency was present in the reproduction. Under these conditions a great number of automatic reproductions occurred. This does not mean, according to the author, that bonds or associations as such have activating force. He assumes that a conscious state has itself a reproductive tendency which naturally follows associative paths.—*K. F. Muenzinger* (Colorado).

[See also abstracts 4197, 4267, 4432, 4506.]

#### NERVOUS SYSTEM

4153. Angulo y González, A. W. Is myelinogeny an absolute index of behavioral capability? *J. Comp. Neur.*, 1929, 48, 459-464.—The author opposes the theory that behavioral capability in animals and man is correlated causally with myelination of nerve fibers. Recent contributions to this subject are briefly and critically reviewed and some information from his own studies of fetal rat behavior is given. He finds that myelination is no criterion of functional insulation of conducting pathways in the rat and that it is not an absolute index of behavioral capability.—*C. P. Stone* (Stanford).

4154. Baranov, V., & Galibina, N. [Complete recovery of parabolized nerves "in situ" by means of the anode.] *Nov. refl. fiziol. nerv. sist.*, 1929, 3,

89-100.—Recovery of a nerve treated with KCl was attempted by applying the anode of a galvanic current through the tissues. The ischiatic nerve of a decerebrate *Rana temporaria* was prepared, removed from the muscle and excited. As soon as the nerve failed to conduct it was returned to the wound and covered with muscle and skin. A part of the nerve was left out of the wound and the platinum electrodes applied to it. Electrodes of a continuous current were used to restore the fatigued nerve. A series of experiments showed that recovery could be accomplished through the tissues. It was also determined that centrifugal fibers parabolize much more slowly and recover much more readily than centripetal fibers.—*A. V. Yarmolenko* (Leningrad).

4155. Bishop, G. H., & Heinbecker, P. Correlation between threshold and conduction rate in myelinated nerves. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 3.—*R. R. Willoughby* (Clark).

4156. Clark, S. Innervation of the blood vessels of the medulla and spinal cord. *J. Comp. Neur.*, 1929, 48, 247-268.—Fine unmyelinated and coarse, possibly myelinated, nerves supply the intrinsic arteries of the medulla and spinal cord. The fine unmyelinated fibers end in relation to the smooth-muscle cells of the media of these arteries and are derived from bundles which supply the pial arteries. The coarse fibers end in relation to cells of the adventitia of the arteries and are collaterals of the myelinated fibers found on the pial arteries. No nerves were found associated with the veins or the capillaries of the cord or medulla.—*C. P. Stone* (Stanford).

4157. Detwiler, S. R., & Carpenter, R. L. An experimental study of the mechanism of coordinated movements in heterotopic limbs. *J. Comp. Neur.*, 1929, 47, 427-447.—The anterior limb rudiments of *Amblystoma* were excised and shifted four segments caudally. In about 50% of the cases grafted appendages exhibited extensive movements that were well coordinated with those of the opposite fore limb, or with a limb on the same side that regenerated in the normal site. Careful analysis of all cases in which coordinated movements were displayed showed that the appendage had a central connection with the spinal reflex pathway involved in fore limb movements. Normally the intact anterior limb is supplied by the spinal third, fourth, and fifth nerves. When the excised limb is shifted caudally approximately four segments the fifth, sixth, and seventh nerves usually supply its musculature, but in certain cases the fourth or the eighth have been known to contribute to its plexus. Never have coordinated movements been observed in grafted fore limbs which were supplied wholly by nerves below the fifth. In grafted limbs supplied by the fifth, sixth, and seventh, coordinated movements immediately disappeared if the fifth was severed and the sixth and seventh left intact. If, on the other hand, the sixth and seventh nerves were severed and the fifth left intact no disturbance in the coordinated movements or the simple reflexes were found. Even a small branch of the fifth was sufficient to insure extensive and well coordinated limb movements in the grafted appendage. From this fact it is evident that the twig of the fifth nerve undergoes extensive branching and that it is capable

of carrying a much greater muscular load than the nerve normally carries. In this and in former studies no evidence was forthcoming to show that the central reflex mechanism for coordinating fore limb movements could be shifted either cephalad or caudad.—C. P. Stone (Stanford).

4158. Elkonin, D. [Local effect of a constant electrical current on the spinal innervation of muscles.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 124-129.—This study deals with the persistent effect of the cathode of a galvanic current upon the reflex conduction of the neural impulse. Under the influence of the steadily operative cathode the reflex conduction of excitation gradually ceased. Application of the constant current produced a recovery of the lost muscle effect. In the development of reflex fatigue a distinct paradoxical stage was observed, wherein strong stimuli remained ineffective, but weaker ones continued to elicit muscular reactions. These phenomena indicate the applicability of Vedenski's theory of parabiosis to the spinal nerve centers.—A. V. Yarmolenko (Leningrad).

4159. Goldenberg, E. [The imbibition and neutralization effect of the brain in solutions of varying pH.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 112-124.—The imbibition of an isolated frog brain was studied with the aid of a torsion scale in solutions of 0.7% NaCl with pH limits of 1.27 and 12.80. Determinations of pH were made with a U-shaped electrode. In strong acid solutions with a pH of less than 3, the curve of imbibition shows a rapid initial increase, then moves more slowly, but after 24 hours it does not exceed 40% of the initial brain weight. In very alkaline solutions where the pH exceeds 12, imbibition is pronounced and reaches a high level. In moderate and weak alkaline or acid solutions, the imbibition curve rises slowly during the first hours of the experiment, then climbs more swiftly and reaches a level of 45-75% within 24 hours. Each of the three imbibition types just described has a characteristic form. The imbibition in a strongly acid or alkaline glycolic buffer resembles the imbibition in corresponding NaCl solutions without buffer. In a moderately acid buffer, however, the imbibition goes on more rapidly than in a bufferless solution. The neutralization effect of the brain lies in the fact that the pH of acid and alkaline solutions (in which the imbibition of the brain was studied) converge toward a neutral zone under the influence of the brain. Maximal displacements due to the imbibition occur in the region of moderately acid and alkaline solutions; with a pH under 3 or over 11, the displacements are either minute or absent. Electrometric titration shows that with buffer solutions the degree of buffering diminishes under the influence of the brain. The neutralizing capacity of the brain is variously explained by metabolism, the buffer effect of the tissue electrolytes, and the buffer influence of colloidal cerebral ampholytes. The author inclines toward the last explanation.—A. V. Yarmolenko (Leningrad).

4160. Heinbecker, P. Properties of unmyelinated fibers of nerve. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 5.—R. R. Willoughby (Clark).

4161. Hess, L., & Faltischek, J. [Physiology of the vegetative centres.] *Wien. klin. Woch.*, 1930 (April).—R. R. Willoughby (Clark).

4162. Kasatkin, N. [The effect of lithium ions on the nerve fiber.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 100-106.—Use of the customary parabiotic apparatus revealed that the time for the development of parabiosis is directly dependent upon the temperature. The inhibition stage disappeared very rapidly and was obtained most clearly during the recovery of the nerve by means of a physiological solution. Parabiosis elicited by iso-, hypo-, and hypertonic solutions could be removed only by an anode with 60-80 cm. of a one-stringed rheochord. Investigation of the electric potential of the parabiotic portion constituted by the isotonic solution LiCl indicated a slight positive flow at the beginning which passed over into a low and steady negative one.—A. V. Yarmolenko (Leningrad).

4163. Klass, M. A note on the olfactory striae in man. *J. Comp. Neur.*, 1929, 47, 171-188.—An anatomical study of the brains of 10 Europeans, 2 Europeans, 19 Bantus, 2 Bush-negroid, and 2 of unknown race was made for the purpose of comparing and contrasting the manner in which the olfactory striae break up as they enter the hemispheres. No difference by means of which one race might be distinguished from the other was detected.—C. P. Stone (Stanford).

4164. Lapizki, D. [The electrical reaction of nerves treated with CaCl and KOI solutions and with the anode and cathode of a constant current.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 56-66.—The "binary hypothesis of inhibition" states that the elements of the second group (calcium, barium, etc.) produce an inhibition not through over-stimulation but through depression, just as in the case of a nerve affected by the anode of a constant current. The author studied the potential of a nerve section in relation to its normal parts when treated with calcium and potassium ions. The nerve portion affected by an isotonic potassium solution and the cathode is always electronegative to the normal nerve parts. Stimulation of the nerve with an induction current evokes a negative oscillation. The electro-negativity aroused in the nerve-piece by potassium and the cathode is checked when placed in an isotonic calcium solution and a contrary current appears. The nerve is normally electro-positive when affected by an isotonic calcium solution and the anode.—A. V. Yarmolenko (Leningrad).

4165. Larsell, O. The effect of experimental excision of one eye on the development of the optic lobe and optic layer in larvae of the tree-frog (*Hyla regilla*). *J. Comp. Neur.*, 1929, 48, 331-352.—If one eye is excised in frog larvae after the optic fibers have entered the optic layer of the optic lobes and the function of the retina has been established, there will be found in frogs that have reached the stage of metamorphosis a reduction in development of the optic lobe. The thickness of the optic layer will be found somewhat thinner on the side to which fibers of the excised eye normally pass, and the cells and fibers reduced in number. It is concluded that the failure of normal development results primarily from deprivation of functional stimuli to the optic layer during the period of larval development.—C. P. Stone (Stanford).

4166. Mekrasov, P. [The effect of adonil on the sympathetic ganglia.] *Nov. ref. fiziol. nerv. sist.*, 1929, 3, 106-112.—The author studied the influence of adonil on the sympathetic ganglia by means of a sympathetic root nerve-muscle preparation after the type of Orbeli. Results: Adonil in a concentration of 1:50 gives a typical wave-like increase in the fatigue curve of m. gastrocnemius. This rise is a result of the stimulation of the ganglion cells, since a transfer of the poison to the motor nerves and post-ganglionic fibers gives a different picture. The latent period of the sympathetic effect is greater with adonil stimulation than with electrical irritation of the sympathetic branch. Attempts to wash out the poisoned ganglia with a physiological solution were fruitless, i.e., there was no return of the sympathetic effect. This may be explained either through the difficulty of bathing or a peculiar fatigue of the peripheral sympathetic apparatus as a result of persistent excitation of the ganglia.—A. V. Yarmolenko (Leningrad).

4167. Mogendovich, M. [Further investigations on the tetanized single contraction with injured nerves.] *Nov. ref. fiziol. nerv. sist.*, 1929, 3, 43-56.—The "dominance" which Ukhtomski discovered in the nerve centers has its prototype in the nerve fiber in the phenomenon of the single tetanized contraction. A weak local excitation is produced in the lower part of the nerve through subliminal tetanization. The dominant of the lower nerve section expresses itself in a considerable increase in both the intensity and duration of the individual muscular contraction. Altering the lower section of the nerve with different chemical substances resulted in finding several factors for strengthening the dominant reactivity of the nerve, i.e., its capacity to summate the excitations from the tetanized subliminal stimuli. Another series of agents has an opposite influence upon this phenomenon, as it destroys the reciprocal reinforcement of broad and local excitation waves. Such substances are the chlorides of K, Rb, Cs, Li, and the OH ions. They weaken the accumulation of excitation waves in the nerve. The obtained results enable one to explain why not all frog preparations yield single tetanized contractions. Evidently, this is dependent upon oscillations in ionic equilibrium as expressed by Loeb's formula. The physiological significance of the cations of Ca and Mg lies in their dominantogenous effects upon the organism.—A. V. Yarmolenko (Leningrad).

4168. Monrad-Krohn, G. H. *The clinical examination of the nervous system.* (5th ed.) New York: Hoeber, 1930. Pp. 222.—R. R. Willoughby (Clark).

4169. Papez, J. W. *The brain of Burt Green Wilder.* *J. Comp. Neur.*, 1929, 47, 283-342.—The brain of this eminent scholar, who was long connected with Cornell University and known especially for his scientific contributions in the biological sciences, was intensively studied as to its dimensions and chief morphological features. Although showing a mild degree of senile atrophy, it weighed approximately 1200 grams. It was well formed and compared to advantage in most respects when contrasted with the brains of 20 other men and 20

women of the Cornell collection. A high grade of development was shown particularly in the inferior frontal, the occipital, and the temporal regions. In the opinion of the author, these developments correlate well with the scholar's mental aptitudes and attainments. Throughout life he was active, energetic, and versatile in his scholarly pursuits and artistic attainments. Up to the time of his death at the age of 84, Wilder was said to retain mental alertness and keen intellectual capacity.—C. P. Stone (Stanford).

4170. Petrov, F. [Influence of calcium ions on the condition of semi-permeability of nerve membranes.] *Nov. ref. fiziol. nerv. sist.*, 1929, 3, 66-76.—Experiments with the ischiatic nerve of *Rana temporaria* gave the following results: A preliminary alteration through calcium chloride and the anode of a constant current prolongs the potassium parabiosis in proportion to the persistence of the previous modification. A preliminary alteration of the nerve by means of the cathode of a constant current increases the development of the potassium parabiosis in proportion to the permanence of the antecedent treatment. In each case the calcium inhibition in the excised nerve was removed by a solution of potassium chloride. The following conclusions are presented: Ca<sup>++</sup> ions and the anode of a constant current diminish the permeability of nerve membrane according to the duration of their influence. The decreased permeability is caused by the inhibiting effect of Ca<sup>++</sup> ions on the nerves. The cathode of a constant current, however, enhances the permeability of the membrane.—A. V. Yarmolenko (Leningrad).

4171. Petrov, F. [Distance effect of electromagnetic waves upon the excitability of nerve tissue.] *Nov. ref. fiziol. nerv. sist.*, 1929, 3, 76-84.—Experimental materials in this study comprised a nerve-muscle preparation (n. ischiadicus with m. gastrocnemius) of *Rana temporaria* and a Galvani preparation (two unsevered frog's legs with skin intact). Study was made of the combined effects of electromagnetic waves with NaCl, with an induction stimulus, and with the anode or cathode of a constant current. Observations led to the following conclusions: The distance effect of electro-magnetic waves increases nervous excitability in both the nerve-muscle preparation and the Galvani specimen. This is fully explained by the combined influence of NaCl and the electro-magnetic waves. The combined effect of the electro-magnetic waves and a constant current gave a clear picture of the antagonistic influence of the anode and cathode on the excitability of the nerve branch.—A. V. Yarmolenko (Leningrad).

4172. Petrov, F., & Lapizki, D. [The complete restoration of parabolized nerves by means of the anode.] *Nov. ref. fiziol. nerv. sist.*, 1929, 3, 84-89.—Numerous workers have investigated the removal of parabiosis by means of the anode of a continuous current, but they were able to restore the parabolized nerve only during the flow of the constant current; after its stoppage the nerve lost its conductivity. This study employed a nerve-muscle preparation of *Rana esculenta* (n. ischiadicus with m. gastrocnemius). When loss of conduction made its

appearance the anode of a continuous current was placed upon the created section. The cathode was applied to the rest of the vertebral column. Observation of the following conditions makes possible a complete restoration of the parabiologized nerve by means of the anode, i.e., the original thresholds can be achieved and maintained even after cessation of the constant current: (1) The anode plate must affect the entire section; (2) a continuous current of optimal intensity must be employed; (3) the circuit must be made only at the beginning of the decline of the conductivity aroused by the anode. Under these circumstances the elimination of parabiologization occurs within 20-25 minutes.—A. V. Yarmolenko (Leningrad).

4173. Stone, L. S. Experiments on the transplantation of placodes of the cranial ganglia in the amphibian embryo. II. Heterotopic transplantations of the ophthalmic placode upon the head and body of *Amblystoma punctatum*. *J. Comp. Neur.*, 1928, 47, 91-116.—Successful transplants of the ophthalmic placode in *Amblystoma punctatum* were made on the ventrolateral surface of the body. Nerve fibers appearing from the ganglion of the graft took a posterior course under the epidermis and the direction of their course appeared to be independent of the orientation of the placode. If placed in the region of the cranial V-VII or the IX-X, the ganglion of the developing graft fused with the underlying ganglia and its fibers took either an independent course or joined the cranial nerves of that region. When substituted for the lateralis ganglion the ophthalmic ganglion did not take over the function of the former and its fibers did not find their way into the lateral line organs.—C. P. Stone (Stanford).

4174. Stone, L. S. Experiments on the transplantation of placodes of the cranial ganglia in the amphibian embryo. III. Preauditory and postauditory placodal materials interchanged. *J. Comp. Neur.*, 1928, 47, 117-154.—Portions of the postauditory placode in *Amblystoma punctatum* containing ganglionic material of the dorsal lateralis VII and the supra-orbital lateral-line primordium were substituted for portions of the postauditory placode, which contains ganglionic materials of lateralis X and the primordium of the mid-body lateral line. In other experiments the order of substitution was reversed. Results in both instances indicate that ganglia of similar function may be substituted for each other and the anatomical picture is such as to suggest that the function of the grafted ganglion would be similar to that of the ganglion for which it was substituted.—C. P. Stone (Stanford).

4175. Van Campenhout, E. Contribution to the problem of the origin and development of the sympathetic nervous system. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 9.—R. R. Willoughby (Clark).

4176. Van Dijk, J. A. The part played by the sympathetic innervation in producing postural tone in the wing of the pigeon. *Arch. neerl. de physiol.*, 1930, 15, 114-125.—The author's experiments, which repeat the work of J. I. Hunter and others, substantiate the views of Langelaan and J. I. Hunter to the effect that "postural tone" (Sherrington) includes

two components: "contractile tone," which is controlled by the somatic nervous system, and "plastic tone" which is controlled by the sympathetic nervous system.—C. P. Stone (Stanford).

4177. Vasiliev, L. [The thresholds of parabiologization for normal and injured nerves.] *Nov. revl. fiziol. nerv. sist.*, 1929, 3, 31-43.—During the course of an experiment, the threshold of parabiologization shifts gradually in the direction of the weaker current, yielding a curve which within limits corresponds to the equation of Weiss-Lapicque. It appears that the attainment and maintenance of the limen of parabiologization is subject to the same quantitative law as the attainment of the stimulus threshold. The threshold of parabiologization sinks ultimately to a characteristic limited magnitude, for the nerves considered, independently of the intensity of the current. In contrast to the thresholds of normal nerves, the thresholds of parabiologization of nerves altered by potassium ions decline more steeply and remain on a lower level. Calcium ions, on the other hand, halt the normal course of parabiologization. Apparently the calcium ions enhance the accommodation of the nerve to the parabiologizing effect of the constant current, while the potassium ions decrease it. This is an instance of the antagonistic influence of monovalent and bivalent cations on that condition in the nerves produced by the cathode: potassium ions decrease it, and calcium ions terminate it. It appears to support the author's view of the double nature of neural inhibition.—A. V. Yarmolenko (Leningrad).

4178. Windle, W. F. The relation of the level of transection of the brain stem to the occurrence of decerebrate rigidity in young animals. *J. Comp. Neur.*, 1929, 48, 227-245.—If newborn puppies and kittens are decerebrated by passing a knife through the mid-brain at a level bounded dorsally by the anterior border of the superior colliculus and ventrally by the anterior border of the pons, decerebrate rigidity is exhibited in the extensor muscles of the fore limbs and to a less extent in the hind legs. This level of sectioning removes almost all of the nucleus ruber. When the plane of sectioning is bounded by the cephalic border of the superior colliculus and by the optic chiasma ventrally the animals retain ability to right themselves and to progress in the manner characteristic of animals of that age. The nucleus ruber and other groups of cells of the hypothalamic region are not disturbed by the latter plane of sectioning. By passing the plane through the cephalic portion of the red nucleus or near this point, the righting reflexes and ability to crawl are greatly impaired. It is concluded that successful locomotion in young dogs and cats depends upon an intact nucleus ruber and possibly other structures of the hypothalamus. Postural reactions, however, are seemingly independent of the red nucleus and develop before myelination of the rubro-spinal tract has taken place.—C. P. Stone (Stanford).

[See also abstracts 4212, 4221, 4281.]

#### MOTOR PHENOMENA AND ACTION

4179. Abramovich, C., Ilyina, O., & Lykina, E. [Analysis of receptor and effector functions in the choice reaction.] *Nov. revl. fiziol. nerv. sist.*, 1929,

3, 177-197.—This paper reports a study of the processes of practice in the choice reaction. In each series, calculation was made of the average speed, and the uniformity of work, with the differentiated errors of both the motor and receptive types. Conclusions drawn were: (1) the speed of work diminishes in proportion to the difficulty; (2) stability, however, increases in direct ratio to the difficulty; (3) differentiation on the effector side is less proficient when new factors are introduced into the performance; (4) receptive differentiation deteriorates when a choice of colors is offered.—A. V. Yarmolenko (Leningrad).

4180. Anderson, O. D. An experimental study of observational attitudes. *Amer. J. Psychol.*, 1930, 42, 345-369.—Observational attitude is taken to mean the way of taking a task and a mode of adjusting oneself to an experimental setting. The importance of this in determining the results of an experiment being clear, the problem of the present experiment was to determine some of the factors which may enter in to modify the formal instruction. The O's were presented with colors and tones and were directed to note and characterize both the initial way of taking the experience and also any change in this mode which might occur during the period of perception. Six distinct attitudes were found: casual survey of objects, inquiring survey of objects, critical survey of O as O, critical, particularizing survey of objects, personal evaluation of objects as pleasant or unpleasant, etc., and impersonal valuation of objects as conforming or failing to conform to some conventional standard. In the second part of the experiment the O's were given characterizations of these six attitudes, and were instructed to assume one of these attitudes and report on the course of the experience occurring under it. But it was found impossible to maintain the particular attitude throughout a period of stimulation no longer than 5 or 10 seconds; the performance demanded by the formal instruction appeared about one-half the time. The inadequacy of formal instruction, even with trained O's, is pointed out; it is plain that the view which regards performance as a "response" unequivocally determined by a "stimulus" is inadequate.—D. E. Johanssen (Rochester).

4181. Beeby, C. E. Simultaneous constituents in an act of skill. *Brit. J. Psychol.*, 1930, 20, 336-353.—An account of a series of experiments undertaken in order to discover (1) whether a movement when combined with one or more other movements loses to some extent its own character and takes on another character due to the combination, and (2) whether a movement when divided into its constituents resolves itself into a number of simpler movements which bear exactly the same relation to one another in isolation that they did in combination. The method adopted was to measure the relative efficiency of a movement before and after division or combination. It was considered that if all other changes could be excluded, any loss of skill indicated a change in the structure of the original movement. The results seemed to show that the division of a movement-whole into its simultaneous constituents resulted in a loss of efficiency in the performance of the constituents, and that conversely, a combination of relatively

simple movements into a movement-whole resulted in a loss of efficiency. There appeared to be an initial positive transfer between the single and the double operations, but this with further practice was converted into a negative transfer. There was the same amount of transfer, initial and final, from double to single as from hand to hand. Two main stages in the process of acquiring skill were observed: (1) the learning stage, characterized by focalized and fluctuating consciousness; (2) the expert stage, characterized by the non-focality of consciousness.—M. Drury Smith (Cambridge, England).

4182. Butorin, W., & Silantyeva, O. [Influence of duration of the associated stimulus upon the magnitude of the reflex.] *Nov. vest. fisiol. nerv. sist.*, 1929, 3, 219-232.—This is a study of the influence of the duration of the associated light stimulus upon the magnitude of the motor reflex. The intensity and duration of the reflex were taken into account. The experiment consisted of two divisions, in each of which the light stimulus was of fixed length. Lengthening the time of stimulation generally produced an increase in the excursion of the hand (reflex intensity) and an increase in the time of the motor phase. This direct proportion between the length of excitation and the reflexive magnitude has limits which vary with the individual organism. Lengthening the time of the stimulus beyond a certain optimum leads to a lowering of the motor effect, i.e., to a partial inhibition. Seemingly, a lasting associative stimulus exercises a retarding influence upon its related reflex.—A. V. Yarmolenko (Leningrad).

4183. Dallenbach, K. M. A reply to Dr. Hollingworth. *Amer. J. Psychol.*, 1930, 42, 458-459.—In answer to the criticisms of the use of the number of errors made by hand-compositors as proof against the law that in the learning of an action-series the intermediate steps drop out, Dallenbach says that although training attempts to eradicate errors, it does not do so entirely; therefore, why should the law not appear in those mistakes which do occur? He says that not everyone who upholds the "law" will agree with the statement that "the tendency as it has been stated has been given as a law of learning." And finally, in answer to the criticism that it is doubtful whether the act of spelling a word is relevant to the problem, Dallenbach says that the compositor is taught to follow the written matter, and spelling is not a part of his job; he therefore feels that the compositor's activity should fall within the scope of the "law."—D. E. Johanssen (Rochester).

4184. Drury Smith, M. Periods of arrested progress in the acquisition of skill. *Brit. J. Psychol.*, 1930, 21, 1-28.—The experiments described in this paper were planned in order to gain further evidence as to the existence and causes of plateaus in tasks of three types. The first task required for its successful performance the building up of a fairly complex system of coordinated body movements, and was so arranged that it could be performed either at its highest degree of complexity or section by section. The second task consisted only of eye and hand movements. The third task involved a larger proportion of mental activities than either of the other two. It was found that the curves of learning

in all three tasks showed various periods of greater or shorter length during which progress, as measured by the score, was completely arrested. About 40% of these periods were apparently inherent in the learning process. They were found to occur in one or other of two sets of circumstances: (1) When the learner's attention was mainly or exclusively concentrated upon one component of a compound task. Sometimes in this case the factor concentrated upon failed to improve, at other times it improved, other factors simultaneously deteriorating. (2) When there was an involuntary interaction between two or more components, so that habits were carried over from one to the other. Sometimes the errors of the new movement were carried over and repeated in the old movement, at other times the rhythm and habits of the old movement were carried over into the new movement, for which they were not suited. In a wide sense, the phrase *difficulties of coordination* sums up all these causes of plateaus. The plateaus appeared to occur only when the subject regarded the task as made up of separable components, not when the task was regarded "as a whole."—M. Drury Smith (Cambridge, England).

4185. Feokistova, E. [Data on individual peculiarities in the galvanic reflex.] *Nov. revl. fisiol. nerv. sist.*, 1929, 3, 257-274.—This paper represents the first section of a study on the relation between personality and the characteristics of the galvanic reflex. There is a noteworthy choice of reactivity in the form of individual variations in the intensity of response to different stimuli. Most characteristic of all is that group of persons in whom the intensity of response oscillates between the first and fourth quartile, depending upon the nature of the excitant. In addition to these quantitative peculiarities, the subjects differ also in the form of the response, such as oddities in tempo, uniformity or persistence as revealed in the galvanogram. Experiments with the galvanic reflex throw much light on the functional properties of the vegetative nervous system, as well as on those reactions to external stimuli from the environment which have arisen from previous experience.—A. V. Yarmolenko (Leningrad).

4186. Gay, H. H. Irregular respiration and the response of tibialis muscle to reflex and direct motor stimulation. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 9.—R. R. Willoughby (Clark).

4187. Gay, H. H. Varying degrees of ventilation and response of anterior tibialis muscle to reflex and motor nerve stimulation. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 9.—R. R. Willoughby (Clark).

4188. Gay, H. H. Low alveolar oxygen and response of anterior tibialis muscle to reflex and motor stimulation. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 9.—R. R. Willoughby (Clark).

4189. Gay, H. H. Effect of intravenous injections of sodium sulphide and sodium cyanide on reflex responses of anterior tibialis muscle. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 9.—R. R. Willoughby (Clark).

4190. Hanes, O. H. Die Korrelation der Reaktionszeit zur Geschwindigkeit der ausgeführten Bewegung. (The correlation of reaction time with the speed of the executed movement.) *Arch. f. d. ges.*

*Psychol.*, 1929, 70, 371-416.—The article contains a description of a set-up of apparatus designed to show graphically the duration and the character of the movement in making a reaction. The essential part of the apparatus is a rotating disk on which a half circle of smoked paper is fastened. This also serves as a rotation tachistoscope for the exposure of the stimulus light. 5 subjects took part in the experiment. The results show that there is a very slight tendency for the S to correct for a very slow reaction by speeding up on the movement. All the coefficients of correlation vary around .00, slightly the greater number being positive. Special conditions of experimentation, e.g., practice, variation in the time between the "ready" signal and the stimulus, change of intensity in the stimulus, etc., determine very largely the relationship between the reaction time and the speed of the movement.—W. Berry (Rochester).

4191. Henshaw, E. M., & Holman, P. G. A note on overtraining. *Brit. J. Psychol.*, 1930, 20, 322-332.—Results from experimental work with three groups of subjects at chain assembling showed that increase of the daily training period beyond a certain length had no apparent effect.—M. Drury Smith (Cambridge, England).

4192. Hollingworth, H. L. On the omission of intermediate acts. *Amer. J. Psychol.*, 1930, 42, 457-458.—A criticism of the use of the number of errors made by hand-compositors as proof against the law that in the learning of an action-series the intermediate steps drop out. (Example used by Freiberger, Dallenbach, and Thorndike, *Amer. J. Psychol.*, 1929, 41, 637-639.) The author questions the conclusion that "the facts give no support to the doctrine that the frequent repetition of a series . . . produces a tendency toward the omission of the intermediate terms of the series," on three grounds: (1) there is a definite training against the dropping of the intermediate letters in learning to spell; (2) the tendency as it has been stated has been given as a law of learning; (3) it is doubtful whether the mere act of spelling a word is relevant to the problem.—D. E. Johansson (Rochester).

4193. Hughes, P. Cooperation or conflict in the study of learning. *Psychol. Rev.*, 1930, 37, 350-360.—"Confusion and conflict in the psychology of learning spring from the attempt to support by physiological pictures and by the ambiguous word 'tendency' laws of necessary consequence in learning. I shall now argue that we reach unity and harmony in the study of learning, in the first place, by confining our laws to the forms which observed facts support: viz., universal laws of necessary antecedence and *sine qua non's*, and statistical statements that point to economy in learning; in the second place, by recognizing wherein the concrete acts of learning consist, and by seeing how all observed modes of learning are for the purposes of empirical study abstracted from such concrete acts of learning."—A. G. Bills (Chicago).

4194. Humphrey, G. Extinction and negative adaptation. *Psychol. Rev.*, 1930, 37, 361-363.—The author argues, on the basis of phenomena common to both extinction and negative adaptation, such as removal by extraneous stimuli, disappearance with

time, etc., that both have the same underlying physiological mechanism, but that extinction may be of a more complex nature.—A. G. Bills (Chicago).

4195. Husband, R. W. Certain age effects on maze performance. *J. Genet. Psychol.*, 1930, 37, 325-328.—Subjects over 30 years of age were found to be somewhat inferior in maze learning to those around 20.—J. F. Dashiell (North Carolina).

4196. Ilyinski, P. N. [Formation of two associative-reflex arcs in two symmetrical regions of different hemispheres.] *Nov. revl. fiziol. nerv. sist.*, 1929, 3, 164-171.—The dog's task in this experiment was to withdraw the left and right paw when two different sound stimuli were offered. It was initially impossible to secure two differentiated associated reactions, but when discrete stimuli (light and sound) were presented, positive results were obtained. After this was effected, the original attempt was repeated with success.—A. V. Yarmolenko (Leningrad).

4197. James, H. E. O. The transfer of training. *Brit. J. Psychol.*, 1930, 20, 322-332.—A discussion as to whether the experimental work already done with regard to the question of transfer of training has exhausted all the possibilities of the problem, and whether the technique used hitherto has been completely satisfactory. Suggestions for an improved technique are outlined. It is suggested that the problem of transfer should be regarded as that of investigating the conditions under which quantitative and qualitative changes in one ability, due to training, determine quantitative and qualitative changes in other abilities. An elucidation of the terms qualitative and quantitative as used in this connection is given. The writer considers that transfer should be sought for in long training tests, not in short immediate tests, in order to give the transfer time in which to manifest itself clearly and unmistakably.—M. Drury Smith (Cambridge, England).

4198. Jones, H. E. The galvanic skin reflex. *Child Development*, 1930, 1, 106-110.—In contrast to Peiper's results (1924) Jones easily finds the G. S. R. in eight human infants as early as three months of age, using the D'Arsonval galvanometer with a Wechsler circuit. Visual, auditory, thermal, and electro-tactile stimuli were used, the last mentioned (mild pain) being the most effective; next came loud sounds. G. S. R.'s were also obtained to removal of bottle when nursing and to situations involving sudden withdrawal of support. Non-effective were visual stimuli (except after conditioning), conditions involving relief, and any "pleasant" stimuli. Comparison is made of results from infants (3 to 11 months of age) with those obtained for 45 adults and for 40 nursery school children: (1) basic characteristics of the G. S. R. (latency, parameter of deflection, specific adaptation, and specific recovery after an interval) are similar; (2) incidental phenomena (curve of rest, the *Voraussschlagphänomen*, *Doppelschwankungen*, and characteristic resistance changes in respiratory reactions and with overt movements) are also similar; initial resistance tends to be lower in infants than in adults; no change in resistance was noted in relation to sleep or waking (in disagreement with Richter, who reports a rise in

resistance in adults during sleep); and, as in adults, the most effective stimuli are those which involve "startle" or "frustration" and which are commonly regarded as associated with fear and anger states: for these stimuli the intensity threshold is higher than is usually found for adults (this may explain Peiper's failure to obtain the G. S. R. in infants under 12 months). These results unquestionably demonstrate the functional completeness of the arcs involved in the galvanic skin reflex, at least as early as three months of age. The experimenter seeks to explain the fact of the smaller and less easily aroused G. S. R. in infants by the inverse relationship between overt and visceral expression: children who are most ready to cry are frequently the least reactive on the galvanometer; when a direct outward release is blocked, as in the increase of inhibition and emotional control in older children, the condition of the organism appears to be favorable to a heightened visceral discharge, one expression of which is provided by the G. S. R.—L. M. Hatfield (Illinois Woman's College).

4199. Lücke, G. P. Die Willenskur. Eine Anleitung zur systematischen Kräftigung des Willens. (The will-cure. An approach to the systematic strengthening of the will.) Munich: Funk, 1930. Pp. 22. M. 0.80.—The fact that the will determines the body and its functions still receives, in general, far too little consideration. The exercises which Lücke recommends in summary form are based upon the principle of a gradual increase in will power. The doses are absorbed in small portions, as it were, and the patient thus systematically accustoms himself to correct breathing, and control of his nerves, and, with this, a strong resistance to all external influences of a paralyzing nature.—G. P. Lücke (Munich).

4200. Mackenzie, C. The action of muscles, including muscle rest and muscle reeducation. (2d ed.) New York: Hoeber, 1930. Pp. 288.—R. R. Willoughby (Clark).

4201. Marquis, D. G. The criterion of innate behavior. *Psychol. Rev.*, 1930, 37, 334-349.—"The evidence here presented is intended to justify the conclusion that there is a fundamental difference between the processes of maturation and learning. Both processes represent an interaction of organism and environment, but learning is distinguished from maturation by this fact: it represents a modification of the organismic pattern in response to specific stimuli present in the external environment at the time of the modification. Maturation, on the other hand, is a modification of the organismic pattern in response to stimuli present in the intra-cellular and inter-cellular environments, which, at the given moment, are independent of external influences."—A. G. Bills (Chicago).

4202. McClendon, J. F., & Hemingway, A. Variations in the polarization capacity and resistance of the skin. *J. Gen. Physiol.*, 1930, 13, 621-626.—In order to measure true ohmic resistances and polarization capacities of the skin the authors have built a Wheatstone bridge of equal ratio arms which they believe is superior to any bridge previously used for high-frequency electric currents. Vaseline was used to mark off constant areas on the skin. An arrange-

ment of the apparatus was used for simultaneous measurements of the apparent direct-current resistance and the resistance to an alternating current of a million cycles. The average of the results shows that when the apparent resistance to a direct current changed 13.7% during the reflex, the resistance to a million-cycle current changed 0.93%. For practical purposes it may be assumed that the resistance to high frequency current does not change during the reflex. After this procedure the D. C. apparatus was removed, the electrodes remaining connected to the bridge. Measurements were made in quick succession by means of the high-frequency current and a current of 1000 cycles per second. By means of the high-frequency current, the ohmic resistance of the body  $R$  was determined and its value in the balancing arm fixed. After substituting a 1000-cycle current a resistance  $r$  and parallel capacity  $C$  were connected in series with  $R$  and the bridge was balanced again. In one case  $R$  was 900 ohms and  $C$  and  $r$  remained constant for 8 minutes. After  $7\frac{1}{2}$  minutes a stimulus was applied to the other hand by means of an induction coil. After a half minute latent period there was a sudden drop in  $r$  from 10,000 ohms to 8800 ohms. At the same time there was an apparent increase in  $C$  from about 0.035 microfarad to 0.0357 microfarad.—C. H. Graham (Clark).

4203. Minut-Sorokhtina, O. [Inhibition and "freeing" of basal electrodermal reflexes.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 297-304.—After an associative reflex has been established by electrodermal stimulation, some subjects with predominant inhibitory processes cease to respond thereto after several reactions. This experiment was designed to unearth the causes of this inhibition and derive methods for combating it. The extinguished basal reflex can be freed from the inhibition by various methods—application of auxiliary stimuli, isolated electrodermal stimuli, and current contact made alternately in the right and left hand. The last device is especially interesting, as the central inhibition in one hemisphere is resolved by irradiation from symmetrical points in the other. Physiological analysis of the results leads the author to the conclusion that the basis of the observed phenomenon lies in the fact that the light signal, instead of acting as an associative excitant, becomes an associative inhibition to the electrodermal stimulation.—A. V. Yarmolenko (Leningrad).

4204. Myasishchev, V. [The psychogalvanic reflex and its significance in the study of personality.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 233-257.—When a stimulus which normally does not elicit a galvanic reflex is simultaneously presented several times with one which does, the indifferent or weak excitant begins to provoke a motor or glandular reflex. A description of the technique follows, indicating that the responses induced thereby appear very readily but exhibit no tendency toward progressive strengthening. The associated response varied from person to person with respect to speed of formation, differentiation, intensity, permanence, etc. The significance of this reflex is especially great in the investigation of other systemic reflexes. Parallel studies of the effectors must be made, as no valid conclusions concerning the activity of the nervous system in general

can be reached from the investigation of only one variety of reflex. The galvanometric method is serviceable not only in analyzing the construction of associative reactions, but also offers a valuable medium for diagnosing established reflexes in the interests of individual typology.—A. V. Yarmolenko (Leningrad).

4205. Neurath, R. Drüsen mit innerer Sekretion und Pubertät. (Glands of internal secretion and puberty.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 4.—R. R. Willoughby (Clark).

4206. Oparina, N. [Relation of excitatory and inhibitory processes under the influence of auxiliary stimuli.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 197-210.—This investigation studied the influence of brief auxiliary stimuli upon the formation of conditioned responses. The experiments indicated that specific stimuli are not definite facilitating or inhibiting agents, but they may instead serve in either capacity, depending upon the status of the individual nervous system. Single presentations of auditory stimuli are normally excitants, while visual stimuli tend to be neutral. Any auxiliary stimulus tends to be ineffective if it impinges upon an organism in which the facilitating and inhibiting processes are in equilibrium; if facilitation is dominant, a generalized reflex of the second order appears; if inhibition is dominant, the auxiliary stimuli serve as associated inhibitors.—A. V. Yarmolenko (Leningrad).

4207. Osipova, V. [Group differences in the central neural activities of children involving verbal commands.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 274-286.—This experiment reports a study of the laws of correlative activity in response to verbal commands. Data include the speed of formation of an associated reflex, the presence of a generalization phase, the rapidity of differentiation, and the establishment of synthetic and analytic reactions. The following child groups may be distinguished: (1) to the first numerous group belong children who perfect associated reflexes by means of an unconditioned generalization phase, and who differentiate and synthesize quickly; (2) includes those children who differentiate poorly because of the dominance of either excitation or inhibition processes; (3) here belong numerous children of the inhibited type, i.e., those who form associated reflexes slowly; (4) this group does not give a rapid synthetic reaction to combined stimuli; (5) this group lacks the generalization phase; differentiation is specialized; the synthetic reaction is quickly perfected; fundamentally, these children are marked by a concentration of the stimulation. The mutual interrelations between the organism and synthetic stimuli can be studied advantageously by the methods here employed.—A. V. Yarmolenko (Leningrad).

4208. Plotnikova, E., & Knyaseva, A. [The reflexive nature of Féré's phenomena.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 129-138.—One may distinguish three types of neural systems according to their reaction to different stimuli affecting the working capacity of muscle. The first type generally responds to all stimuli with a heightened functioning. The second type generally does not react, and the third responds selectively with either an enhanced or dimin-

ished activity. While ergographic records were being taken, the ringing of a bell or facilitating agent was associated with a blue light or inhibitor. Under certain circumstances it was possible to attach an associated reflex to the blue light, which then acted as a stimulating influence.—A. V. Yarmolenko (Leningrad).

4209. Ring, C. C., & Bentley, M. The effect of training upon the rate of adult reading. *Amer. J. Psychol.*, 1930, 42, 429-430.—The visual perceptive span for words and phrases was determined for 5 O's before and after a training period of 2 weeks. The training consisted in having O read specified material for 15 min. morning and afternoon; the material was divided into sections by vertical lines, and O was instructed to fixate only at the vertical lines. The distance between the vertical lines was gradually increased, beginning with the normal fixation distance. It was found that the rate of reading increased and the average number of fixations for a line decreased. The range of span decreased, but the span itself did not change greatly. The increase in reading facility seems to rest largely upon the smaller number of fixations per line and the greater number of fixations per unit of time.—D. E. Johanssen (Rochester).

4210. Schnierrmann, A. L. [Mutual effect of synergetic and antagonistic conditioned reactions in the right and left hand.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 145-164.—Four differentiated responses were established in both right and left hands by the use of four electric lamps as associative stimuli, placed respectively above, below, left, and right of the subject. Four movements comprised the reactions: pressure of the right hand, pressure of the left, elevation of the right, and elevation of the left hand. The associated reflexes were readily established, each succeeding act requiring fewer repetitions than its predecessors. The principal experimental objective was to study the reciprocal influence of the established responses when two stimuli were presented simultaneously. Double combined reflexes of three types were obtained from most subjects: (1) symmetrical reactions occurred when synergetic movements of both extremities appeared; (2) crossed-antagonistic reactions were elicited when simultaneous motion of both extremities in opposite directions was involved; (3) alternating reactions were manifest when successive motions of one extremity were made in directions opposite to those of the other. The crossed-antagonistic response is most easily obtained; subjects often gave this rather than the anticipated symmetrical or alternating reflexes. This phenomenon can be brought into relation with Sherrington's "reciprocal innervation." The alternating reflex is the most difficult to secure; these responses generally began with the pressure. Some subjects were able to make combined reflexes to three and four stimuli.—A. V. Yarmolenko (Leningrad).

4211. Schnierrmann, A. [Relation of synergetic and antagonistic reflexes in the right and left hand of oligophrenics.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 398-419.—These experiments were performed on oligophrenic subjects by using the rotation method. Different results were derived in accordance with the

mental retardation of the subjects. Differentiated reflexes were not obtainable with extreme idiots. Where moderately incomplete development existed, an approximate differentiation of four reflexes was secured, but each of them was expressed in repeated to-and-fro movements of the same hand. Finally, with mild retardation four differentiated reflexes were relatively easily perfected (in which two symmetrical responses were made to two symmetrical stimuli). Combined reflexes of different types were also obtained. They are distinguished from the responses of normal subjects by characteristic errors, e.g., instead of a lengthened combined reflex a double movement of the same hand in the same direction was made. Several peculiarities of muscular effect were also observed. The evidence supports the view frequently held that in oligophrenia we are dealing more with a definite pathological situation than with a retardation of growth.—A. V. Yarmolenko (Leningrad).

4212. Schnierrmann, A., & Oparina, N. [Data on the rôle of the effectors in the differentiating activity of the central nervous system.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 171-177.—In a conditioning series, the right hand of two subjects withdrew when the associated stimulus was presented, and the left hand when a variety of different stimuli appeared. In one case, where the subject was left-handed, this could be attributed to the functional dominance of the motor centers of the right hemisphere. In another case, temporary functional dominance was established artificially by an antecedent stimulation of the left hand with an electrodermal excitator. Both instances illustrate the essential rôle played by the reciprocal operation of the effector apparatus in the differentiation of external stimuli through the nervous system.—A. V. Yarmolenko (Leningrad).

4213. Schorn, M. Untersuchungen über die Handgeschicklichkeit. (Investigations on manual dexterity.) *Zsch. f. Psychol.*, 1929, 112, 325-378.—R. R. Willoughby (Clark).

4214. Sorokhtin, G. [The inhibited type.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 286-297.—As a result of an elaborate reflexological examination of children of the inhibited type, the author lists their characteristic peculiarities. The major feature is the correlation of muscular and breathing reflexes. Especially interesting is the fact that this group never offers an associated breathing reflex before the establishment of a corresponding motor response. Constitutionally, there is a tendency toward the pyknic type, a uniform low tempo of motion with marked static persistence, and from a pedagogical viewpoint, amenability to discipline, constancy, reserve, independence, etc. There exists a complete correspondence between the educational qualities of the children and the reflexological diagnosis.—A. V. Yarmolenko (Leningrad).

4215. Thouless, R. H. The technique of experimentation on the psycho-galvanic reflex phenomenon and the phenomenon of Tarchanoff. II. *Brit. J. Psychol.*, 1930, 20, 309-321.—In the first section of this part the writer explains his method of measuring the T-phenomenon. He then describes the most satisfactory types of apparatus for use in ex-

perimental work of this nature. The various factors determining  $W'$ , or the apparent resistance of the subject, are next discussed. The paper concludes with an outline of several preliminary problems, upon the solution of which largely depends the usefulness of the P. G. R. and T-phenomenon as instruments of psychological measurement.—*M. Drury Smith* (Cambridge, England).

4216. Trumper, M. The significance, limitations and possibilities of psycho-biochemistry findings. *Psychol. Clin.*, 1930, 18, 229-235.—A discussion of the ways in which biochemistry may assist in the work of the psychological clinic. Some of the tests are described, and recent advances in this field are indicated. Certain necessary precautions are discussed. The author suggests, as a line of valuable research, a study of the infrequent co-existence of diabetes and epilepsy.—*J. T. Metcalf* (Vermont).

4217. Wenner, W. F., & Taylor, A. B. Effect of changes in ion concentration of blood upon reflex time. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 3.—*R. R. Willoughby* (Clark).

4218. Yarmolenko, A. [Motor characteristics of reflexological types in school-children.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 304-326.—Motor profiles were obtained from ordinary school children by means of statistical analysis of the separate components of movements, and their normal variations adjusted for age and sex factors. The motor diagnosis of the reflexological types established the following peculiarities: The excitable type shows an oscillation of the coefficients, with rapid irregular movements. The inhibited type gives an opposite picture, with slower, more regular, and intenser motion. The tempo increases uniformly; duration is marked. The plastic type reveals no definite correlation. Oscillations are small. The plastic motor profile approaches the inhibited or excitable types, depending on the resemblance of the features in the reflexogram.—*A. V. Yarmolenko* (Leningrad).

[See also abstracts 4097, 4119, 4140, 4147, 4166, 4176, 4221, 4226, 4249, 4253, 4260, 4281, 4282, 4284, 4289, 4290, 4313, 4344, 4432, 4454, 4474, 4480, 4492, 4511, 4568.]

#### PLANT AND ANIMAL BEHAVIOR

4219. Aronovich, G., & Khotin, B. [The imitation of apes.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 378-398.—The method of "experimental conflict" was used in this study of imitation. This procedure consists in bringing the animals into such relationships between one individual and the group or between one individual and another that a positive signal for one is a negative signal for the other and vice versa. Where imitation was absent, the behavior of each animal in the general cage was determined by his individual acquisitions, i.e., through the associative motor reflexes which had been perfected in isolation. The experiments were performed in the zooreflexological laboratory of the Leningrad Zoological Park. The application of this method of "experimental conflict" supports the view of Thorndike that "apes ape very poorly." Individually acquired experience prevails over the imitation of the experimental macaques. The authors

agree with Watson's opinion that the high position of the anthropoids in the animal kingdom is not to be attributed to their imitativeness, but rather to their extraordinary sensitivity to external stimuli and their excellent muscular adjustments.—*A. V. Yarmolenko* (Leningrad).

4220. Beling, I. Über das Zeitgedächtnis der Bienen. (On the time memory of bees.) *Zsch. f. vergl. Physiol.*, 1929, 9, 259-338.—By training bees to expect their food at a certain hour, and then, on a critical day when no food was given, by counting the number of bees that visited the scene of feeding at different times throughout the day, it was found that most bees returned at the expected time. The author concludes that bees possess a significant awareness of the lapse of time. Their behavior could be conditioned to any time of the day or night. It did not depend upon such external factors as light, humidity, temperature changes, or electrical atmospheric clues, which were all controlled. The phenomenon, however, is bound up with a 24-hour rhythm of some sort, as attempts to condition the bees to 19-hour rhythms were unsuccessful. There is a theoretical discussion of the reason for this, and of the different possibilities. Bibliography.—*W. D. Commins* (Stanford).

4221. Blagoveshchenskaya, W. [Formation of associations in animals with but one hemisphere.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 333-378.—Using the Klovovski extirpation method, one of the brain hemispheres of 13-day-old puppies was extirpated. All the animals survived the operation. An association between running to a food stimulus and the tone of an organ pipe was established in both normal controls and the operated animals. The formation and the finer differentiation of the response occurred with equal precision in both groups; in fact, the reactions occurred with somewhat greater rapidity in the animals with the missing hemisphere. Tonal localization was accomplished in both groups with equal facility.—*A. V. Yarmolenko* (Leningrad).

4222. Chase, A. M., & Glaser, O. Forward movement of paramecium as a function of the hydrogen ion concentration. *J. Gen. Physiol.*, 1930, 13, 627-636.—At constant temperatures and within physiological limits a change in pH in either direction causes an increase in the speed of movement of *Paramecium*. These increases are temporary. A minimum is reached in 30 to 45 minutes. This is followed by a recovery period lasting for about an hour. Finally equilibrium is established. With inorganic acids the final speed after 3 or 4 hours is that characteristic of long exposure to pH 7.0. With valeric or carbonic acids, the speed after 3 or 4 hours is proportional to the  $[H^+]$  of the external, and probably of the internal medium. These facts become explicable if it is assumed that the ionization of an ampholyte superficially localized is essential for the execution of the ciliary stroke. Valeric acid and carbonic acid penetrate the cell. As a working hypothesis it is assumed that internal increase of the  $[H^+]$  accelerates the rate at which this ampholyte is synthesized; but without penetrating the cell, hydrogen or hydroxyl ions in the external medium could also increase the degree to which this ampholyte dissoci-

ates. Increased ionization of a fixed quantity of ampholyte and an increase in the rate of its production are in these experiments practically indistinguishable. Hence, it is assumed that both sudden, temporary and final, permanent changes in speed due to change in pH involve essentially the same mechanism.—C. H. Graham (Clark).

4223. Colton, H. S. Biped habit. *Scient. Mo.*, 1930, 31, 80-85.—The fore limbs of white rats were removed from half the individuals of over fifty litters shortly after birth. The bipeds developed longer femurs and other variations in leg bone structure, and showed differences in length and type of stride.—J. F. Dashiell (North Carolina).

4224. Corey, S. M. The reliability of the elevated skeleton maze. *Amer. J. Psychol.*, 1930, 42, 439-442.—High reliability coefficients were obtained from 186 60-day-old white rats on an elevated maze similar in type to the one described by Miles.—D. E. Johansson (Rochester).

4225. Corey, S. M. Equating groups in comparative experiments. *J. Comp. Psychol.*, 1930, 10, 287-294.—The author presents evidence tending to show that the equating of groups with respect to initial ability is as important in animal experiments as in experiments with human subjects. 160 rats, bred from Wistar stock with continuous inbreeding for one year, were trained to run an elevated skeleton maze in which all of the angles were right angles and all of the straight paths 24 cm. in length. The experiment started when the animals were two months old. 5 trials per day were given, and 5 consecutive errorless runs was the criterion of learning. Speed of learning was noted in terms of number of errors, number of trials necessary to reach the criterion, total amount of time spent in the maze, and actual "running time." The author correlated the performances of litter-halves. The correlations were .78 for trials, .72 for running-time, .80 for errors and .30 for total time. The p.e.'s were .06, .076, .057 and .143 respectively. Correlation coefficients between the different criteria of learning are also tabulated. The author concludes: "It appears from the data . . . that equating groups is of extreme importance in comparative studies using animals for subjects. The presence of relatively high inter-litter correlations would tend to invalidate the results of comparative researches unless the split-litter, or some other equivalent, technique is used. Secondly, this technique serves to hold constant other factors such as amount of handling, temperature, degree of orientation, and hours of experimentation, which may, of themselves, cause significant differences to appear between the records of groups otherwise considered similar and comparable, and which are usually allowed to exert unknown influences."—N. L. Munn (Pittsburgh).

4226. DeBurllet, H. M., & Versteegh, C. Ueber Bau und Funktion des Petromyzonlabyrinthes. (The structure and function of the labyrinth of *Petromyzon*.) *Acta Oto-Laryngol.*, 1930, Suppl. 13. Pp. 58.—With the aid of 24 illustrations, the anatomy of the labyrinth of *Petromyzon* is explained. The most striking feature is the presence of only two semicircular canals. The peculiar course of the fluid in the labyrinth is described. The author's observations on

the behavior of the fish with normal labyrinths is compared with those of previous experimenters. He often observed slight movements to the right or left when the animal was swimming, while some authors failed to make such an observation. He also observed energetic movements of the head to the right or left as the animal swam. After both labyrinths were extirpated, the animal is apparently disoriented, for it was seen to swim on the back. After only one labyrinth was extirpated, it swam with the operated side turned slightly under. A study of the eye reflexes showed the missing semi-circular canal to be the horizontal one. Bibliography.—M. B. Mitchell (Yale).

4227. Dennis, W. A study of learning in the white rat. *J. Genet. Psychol.*, 1930, 37, 294-308.—Rats were trained in three single-choice mazes which differed only in length in five successive problems: to eliminate its blind alley (ordinarily made to be the path entered first on first trial), then successively to learn four alternate reversals of true and false paths. Mastery of none of the five problems was reached with any suddenness. Length of maze had but little effect upon number of trials necessary, but did induce speed of running. Repeated learning of the similar problems had no consistent effects upon runs required. Partial eliminations and head movements were studied in relation with the differences in maze length, in problem order, in correct versus incorrect runs, etc.—J. F. Dashiell (North Carolina).

4228. Eipper, P. Tierkinder. (Animal children.) Berlin: D. Reimer, 1930. Pp. 67. M. 5.50.—E. R. Willoughby (Clark).

4229. Fischel, W. Über die Bedeutung der Erinnerung für die Ziele der tierischen Handlung. (The significance of memory in animal behavior.) *Zsch. f. vergl. Physiol.*, 1929, 9, 636-664.—After determining that mice showed a preference between grains of corn, their behavior under experimental situations was observed. The existence of memory was inferred from the following: the animal was often seen to run to and fro in search of the preferred grain; it could be trained, after a rather long period, to give up its random searching activity, and to run directly to the preferred kernel. The distance between the animal and the grain could be gradually increased. Bibliography.—W. D. Commins (Stanford).

4230. Fritz, M. F. A note on the use of tools by the white rat. *J. Genet. Psychol.*, 1930, 37, 330-331.—Drinking behavior is described in which rats apparently handled wood shavings in a tool-using manner.—J. F. Dashiell (North Carolina).

4231. Gengerelli, J. A. An experiment on the natural preference of rats for right and left turns. *J. Comp. Psychol.*, 1930, 10, 263-265.—The author observed that rats have a preference for right or left turns in running a simple T-maze. It was found that training increased the preference. It is pointed out that such a result does not agree with the findings of Yoshioka. He says, "It would seem . . . from certain dynamic considerations, that an animal having preference for any given turn would tend to have that preference increased as the result of exercise. Since the set-up of Yoshioka was different from our own,

it is futile to attempt a final estimate of this point."—*N. L. Munn* (Pittsburgh).

4232. Henschel, J. *Reizphysiologische Untersuchungen an der Käsemilbe Tyrolichus casei*. (Physiological investigations on the stimulus-reactions of the cheese mite, *Tyrolichus casei*.) *Zsch. f. vergl. Physiol.*, 1929, 9, 802-837.—The mite possesses a chemical sense. It reacts positively to lower concentrations of decaying flesh, skatol, etc., and negatively to strong concentrations. It possesses a temperature sense, but its reactions to temperature depend upon previous adaptation. It reacts negatively to decreasing temperatures. The mite reacts to a scale of brightnesses by congregating in the middle range. It is generally negatively phototactic, but this depends upon its condition of development.—*W. D. Commings* (Stanford).

4233. Lindley, S. B. The maze-learning ability of anosmic and blind anosmic rats. *J. Genet. Psychol.*, 1930, 37, 245-267.—To determine whether operative destruction of the olfactory tract in the albino rat lowered learning ability in the maze, normal, blind, anosmic, blind anosmic, partial anosmic, and infected animals were trained in a multiple-T maze of 12 alleys. The anosmic and especially the blind anosmic groups were found to be significantly inferior to the normal and the blind groups in learning the problem. To determine whether group differences brought out in the maze type of problem persisted in other forms of learning the same groups (except the blinds) were trained in a 5-unit multiple discrimination box in which the lighter side was to be chosen. Here no significant group differences appeared. Neurological interpretation of the difference is not clear. The need of further experimentation is indicated with apparatus in which olfactory cues might be used (as in the maze) as contrasted with those in which olfactory cues are not of directive value (as in light discrimination).—*J. F. Dashiell* (North Carolina).

4234. Macht, D. I., & Leach, H. Effect of methyl and alcohol mixtures on behavior of rats in a maze. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 4.—*R. R. Willoughby* (Clark).

4235. Miles, W. R. The comparative learning of rats on elevated and alley mazes of the same pattern. *J. Comp. Psychol.*, 1930, 10, 237-261.—38 rats were run once daily on each of the 15-blind duplicate-pattern mazes, the order being alternated each day. Average trials, alley 15.8, elevated 18.7; average errors, alley 72.8, elevated 64.7; average time, alley 4280 seconds, elevated 3434 seconds. Superiority of the elevated maze may be due to its smaller surface area to be explored; responses to both mazes were similar. The elevated maze is superior in ease of observation and modification. Early and peripheral blinds, and particularly late blinds turning toward food, are persistently attractive in both mazes and stronger in the elevated. Rats do not fall off the latter if the pathway is at least an inch wide.—*N. L. Munn* (Pittsburgh).

4236. Patrick, J. R., & Anderson, A. C. The effect of incidental stimuli on maze learning with the white rat. *J. Comp. Psychol.*, 1930, 10, 295-307.—In a Stone multiple-T maze the following incidental

stimuli were introduced: (1) a bright light focussed over the true path; (2) a dark shadow thrown over the true path; (3) a buzzer sounded just outside of the maze; (4) a change in the position of the assistant; (5) a white panel used interchangeably with a black panel in the black wall of the maze; and (6) rotation of the maze. These incidental stimuli were kept constant until a group of 10 rats had learned the maze pattern. Another group of 10 rats were trained to run the maze with a change in the incidental stimuli every 4 out of 5 trials. The learning of the two groups of rats under these different conditions did not differ to any considerable extent. In the test runs, however, the effects of the incidental stimuli were clearly shown. While the control group were not significantly disturbed by changes of the incidental stimuli, the experimental group, which had been run under constant conditions, was greatly disturbed. The disturbance was measured in terms of time and errors. The authors summarize their data as follows: "(1) From the data . . . it appears that the white rat learns not the maze pattern alone, as such, but that he learns this pattern as it is related to the other stimuli acting constantly along with the maze pattern at the time. If this phenomenon be related to the *redintegration* phenomenon of Hollingworth and to the *Gestalten* concept it has the virtue of being objectively demonstrated. (2) A sudden shift of incidental stimuli acting along with the maze pattern while it is being learned, will, after learning has taken place, throw the animal off, and cause an excess of errors made in a succeeding trial. (3) There seems to be a tendency for the loci of excess errors made to be distributed about the points of incidental stimuli which may themselves be responsible for the excess errors. (4) How constantly these incidental stimuli have to be present in order to be learned as a part of the *intra-maze* pattern; at what point in the learning process they have to be introduced; or which of these stimuli is most effective in the maze-learning situation we do not know. . . ."—*N. L. Munn* (Pittsburgh).

4237. Pustet, A., & Berger, K. Versuche über das Gedächtnis und das Lernvermögen der Tauben. (Experiments on the memory and learning capacity of pigeons.) *Zsch. f. vergl. Physiol.*, 1929, 9, 668-684.—Pigeons were fed poisoned corn, which led to vomiting and sickness. After a single experience of this sort, they learned to avoid the poisoned corn mostly through a position habit, but succeeded to some degree in avoiding it through taste and odor. A preferred grain might lose its position of preference through being poisoned but once, even though it was ever after presented untouched, and even though other pigeons were eating it at the same time. The effects of such an experience last for seventeen days.—*W. D. Commings* (Stanford).

4238. Rau, P. Animosity and tolerance in several species of *Polistes* wasps. *J. Comp. Psychol.*, 1930, 10, 267-286.—The author studied the effects of introducing strange wasps into the nests of three orphan groups of wasps. The three groups comprised twelve nests of *P. pallipes*, one nest of *P. annularis* and one nest of *P. variatus*. "The wasps were taken when young from their own nests and placed on nests

among others of their own or sometimes of different species. Among their own kind, they were always tolerated, sometimes treated so cordially as to be entirely ignored; sometimes friendly curiosity was displayed by the old occupants, expressed by a clash of antennae which served as a greeting, and then they were taken in as members of the family." All three species of *Polistes* manifested an "instinctive hatred" for adults of other species of *Polistes*. Some of the individuals, however, used "discriminatory discretion and individual decision in dealing with their problems." Certain modifications of the instinctive reactions were observed.—N. L. Munn (Pittsburgh).

4239. Ritter, W. E. The nutritive activities of the California woodpecker (*Balanosphyra formicivora*). *Quar. Rev. Biol.*, 1929, 4, No. 4.—R. R. Willoughby (Clark).

4240. Skinner, B. F. On the conditions of elicitation of certain eating reflexes. *Proc. Nat. Acad. Sci.*, 1930, 16, 433-438.—It is assumed that under constant conditions the amount of food eaten per unit time is proportional to the strength of the series of eating reflexes. A feeding device permitted a rat to obtain uniform pieces of prepared food (20 pieces to the gram) in such a way that an electrical contact was made for each piece taken. Records were made on a kymograph. The results show that the frequency with which the rat repeats a series of eating reflexes diminishes in an orderly way throughout the eating period. Analysis of the records show that they resemble curves for a power function  $N = Kt^n$ , where  $N$  is the amount of food eaten at time  $t$ ,  $K$  is a constant for any one experiment, but varying from experiment to experiment depending on certain features, and  $n$  is another constant having a very low degree of variability (0.67 to 0.71) for all experiments. The possibilities of the method have still to be explored.—C. H. Graham (Clark).

4241. Slotopolsky, B. Die Selbstverstümmelung der Eidechsen in ihren Beziehungen zum Nerven-system. (Self-mutilation of lizards in its relation to the nervous system.) *Zsch. f. vergl. Physiol.*, 1929, 9, 82-113.—An experiment with lizards, reporting the conditions of self-mutilation after the animals had been secured to a board and the tail injured by burning. The loss of the injured part could be brought about not only in a decapitated animal, but even in an isolated tail. Although the phenomenon could be evoked only with greater difficulty in these cases, it showed that there was a spinal component in this form of behavior under natural conditions. But there exists no circumscribed reflex center for autotomy. It is a reaction of the whole animal with both spinal and cerebral components. Bibliography.—W. D. Commings (Stanford).

4242. Stovsky, W. H., & Pattie, F. A. Discrimination of direction of moving stimuli by chickens. *J. Comp. Psychol.*, 1930, 10, 317-323.—Two rotating kymograph drums with vertical stripes 1" wide and 1" apart were placed behind glass windows at the ends of the alleys of a Yerkes-Watson discrimination apparatus. The two drums rotated in opposite directions and the problem was to select the side on which right-left movement occurred. The subjects were Rhode Island Red chickens, 5 weeks old at the

beginning of the experiment. Confinement was used as a punishing device for wrong responses. The results and conclusions are as follows: (1) Chickens can be trained to discriminate two opposite directions of horizontal movement. (2) Confinement of a chicken for one minute in the "wrong" compartment as a punishment for an incorrect choice is productive of learning. (3) After learning is complete, the chicken can discriminate the two movements without having to see both of them at the same time. (4) After the problem has been learned, it is found that a positive response has been attached to the positive stimulus and a negative response to the negative stimulus.—N. L. Munn (Pittsburgh).

4243. Stetter, H. Untersuchungen über den Gehörsinn der Fische. (Investigations on the hearing of fish.) *Zsch. f. vergl. Physiol.*, 1929, 9, 339-477.—A submerged telephone receiver was used to convey the sounds to the water containing minnows. The animals were trained to seek food at the time of the proper stimulus. The fish were blinded, but this proved to be an unnecessary precaution. The range of tones perceptible was well over five octaves. Auditory acuity, for sounds of small intensity, was less than that of man in air, and greater than that of man under water. The animals could distinguish between two high tones, in some cases the interval being a third, but in most cases an interval of an octave was necessary. Tones could be distinguished from noises. No ability to distinguish between different intensities of the same tone could be observed. Learning time varied greatly, and reaction time was less than a second. Bibliography.—W. D. Commings (Stanford).

4244. Upton, M. The geotropic conduct of young guinea pigs. *J. Gen. Physiol.*, 1930, 13, 647-655.—Young guinea pigs while progressing on an inclined surface orient upward in a way such that the path of progression is at a mean angle  $\theta$  to the intersection of the plane with the horizontal. The angle  $\theta$  increases as the angle  $\alpha$  of the inclination of the plane increases. The results of this experiment support a general muscle tension theory of geotropic orientation. The relation of  $\theta$  to  $\log \sin \alpha$  is sigmoid in character and  $\cos \theta$  is a nearly rectilinear function of  $\sin \alpha$ . In this case the functions are compound, being made up of two curves with a break occurring at a slope of  $\alpha = 45^\circ$ . Observation of a blinded guinea pig in light reveals the fact that in the neighborhood of  $45^\circ$  the mode of progression changes. Below this angle the animal walks with the feet on the two sides of the body moving alternately. Above this angle the animal hops. This change in the manner of progression involves a change in the organization of muscle tensions, and in all probability accounts for the change in the relations of  $\theta$  and  $\alpha$ . The behavior of the mean  $\theta$ 's is paralleled by that of their P. E.'s. This is interpreted as providing an automatic check upon the significance of the measures.—C. H. Graham (Clark).

4245. Washburn, M. F., & Ebersbach, R. The effects of the direction of initial pathways on the orientation of white mice in a maze. *Amer. J. Psychol.*, 1930, 42, 413-414.—The purpose of the study was to see how the orientation of the animal toward

the goal would be affected by differences in the initial pathway. The results indicate (7 animals in each group) that if the direction of the initial pathway is toward the goal the orientation toward the goal is increased.—*D. E. Johansson* (Rochester).

4246. Washburn, M. F., Jacobs, E., & MacKenzie, M. The effect on orientation in the circular maze of the presence or absence of food at the goal during the running. *Amer. J. Psychol.*, 1930, 42, 414.—In order to determine how the presence of food at the goal during the running of the maze affected the orientation of the animal, two groups of 7 mice each were run in a circular maze. For the one group a bowl of milk was at the goal during the running periods; for the other group the milk was given the animal only after it had arrived at the goal. The results of the experiment indicate that the orientation of the animals was unaffected by the presence of the milk during the running period; it is suggested that food with a stronger odor might have produced different results.—*D. E. Johansson* (Rochester).

4247. Weber, H. Biologische Untersuchungen an der Schweinelaus unter besonderer Berücksichtigung der Sinnesphysiologie. (Biological investigations on the swine-louse, with special reference to physiology of the senses.) *Zsch. f. vergl. Physiol.*, 1929, 9, 564-612.—This species of mite possesses an appreciation of small temperature changes. The receptors are distributed throughout the whole body, but the antennae are of special importance when air currents are concerned. The preferred temperature corresponds to the average surface temperature of the swine. The organs of olfactory stimulation are located in the antennae, and the mite may become orientated to an odor at a distance of thirty centimeters. One of its most significant reactions for the finding of a host is that to light. Light inhibits movement, and darkness or shadows evoke it. The mite does not respond to contact, but shaking calls for increased activity. It is negatively geotropic, which is probably physiologically conditioned by the weight of the abdomen, causing it to climb upon its host. Bibliography.—*W. D. Commins* (Stanford).

4248. Yoshioka, J. G. A further note on a position habit in rats. *J. Comp. Psychol.*, 1930, 10, 309-315.—Two groups of rats were run, respectively, on a diamond-shaped maze and on a triangular maze. The animals, during the course of the experiment, were offered the opportunity of running to the right or to the left for food. There was a decided preference for right or left turns. The position habit characteristic of each animal was correlated with the direction of curvature of the nasal bones and a correlation of  $.69 \pm .066$  was found. There was also an attempt to determine whether the length of the bones of the four limbs could be influential in leading to position habits. The only difference discovered was a slight one (less than 1 mm.) between the right and left ulna and radius. The other bones were equal on both sides of the body. The author concludes that "in a familiar maze where two alternative paths are equally satisfactory in reaching the goal, rats whose nasal bones are curved toward the right or who have a right turning habit in reversing a forward run tend to choose the right path, and simi-

larly rats having this peculiar anatomical deviation and habit on the left tend to choose the left path."—*N. L. Munn* (Pittsburgh).

4249. Zawadowsky, B. M., & Rochlina, M. L. Bedingte Reflexe bei normalen und hyperthyreoidisierten Hühnern. (Conditioned reflexes in normal and hyperthyroidized hens.) *Zsch. f. vergl. Physiol.*, 1929, 9, 114-144.—Six animals were used in the experiment. Positive conditioned reflexes were built up by confining them in a cage and having them come to the right window of this cage for food upon the sound of a metronome beating 100 times per minute. Discriminatory and inhibitory conditioned responses were then established with a variation in the speed of the metronome. Some of the animals were to respond in a differential fashion by going to the left window for food when the metronome beat 40 times per minute, and others were simply to inhibit their tendency to go to a window for food upon the presentation of this number of beats. In speaking of this phase of the experiment, the authors say that there is great difficulty in the formation of differential and inhibitory reactions, but that they can be formed. In general, "the earlier and older conditioned reflexes are stronger than the more newly formed." They think that this may partly explain the persistence of the bird in the brooding stage, and other instinctive acts. The animals were then fed varying doses of thyroid substance with the following results: a single large dose brought about a phase of depression lasting 4-5 days, then a strong return of the positive conditioned reaction, with a disappearance of the inhibitory and differential one. In the case of small continuous doses, there was a more exact and improved differential reaction, due to the increase of inhibitory control. The authors believe that it is possible to give an optimal dose of the thyroid substance, so that the depression phase will be totally eliminated, and that more accurate conditioned reflexes can be formed. They suggest that their results have some implications for neuropathology. Bibliography.—*W. D. Commins* (Stanford).

[See also abstracts 4153, 4157, 4159, 4165, 4173, 4174, 4178, 4196, 4483.]

#### EVOLUTION AND HEREDITY

4250. [Anon.] Erbgang normaler menschlicher Eigenschaften. (The heredity of normal human qualities.) *Volksaufart, Erbkä., Eheberat.*, 1930, 4, 73-80.—*A. Römer* (Leipzig).

4251. [Anon.] Sterilisation of the feeble-minded. *Lancet*, 1929, 216, 456-457.—(*Soc. Sci. Abst. I: 7819*).

4252. Hodson, C. B. S. Feminism and the race. *Eugenics*, 1929, 2, 3-5.—In England it appears that the worst effects of the sterilizing possibilities of university life on the most intellectual women are over. Formerly women graduates married late, but now their marriage age is down almost to normal. More women than men—ten to one—show a deep concern in heredity and eugenics.—(*Soc. Sci. Abst. II: 8522*).

4253. Jones, H. E. Twins. *Calif. Mo.*, 1930.—The nearest possible to perfect control in experiments concerned with human development may be found in the use of identical twins as subjects. At

the Institute of Child Welfare, University of California, research is being conducted with preschool and older twins. In one case twin girls taken into a nursery home shortly after birth have received periodic mental and physical examinations from the age of four weeks to eighteen months. For instance, one twin was given intensive daily training in handling blocks. The other had no training. At the end of six weeks it was found that the twin with no training was slightly more skilful than the other. Similar conclusions were reached in regard to locomotor traits. The indication is that improvement and growth in behavior are developmental processes more or less independent of learning, although encouragement may aid in their fulfillment.—M. P. Montgomery (Faribault, Minn.).

4254. Lange, J. Über Anlage und Umwelt. (Heredity and environment.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 4.—R. R. Willoughby (Clark).

4255. LeFevre, L. Statistics and intelligence. *Amer. Mercury*, 1929, 18, 34-41.—A critical analysis of statistical studies of the question as to whether intelligence is determined by heredity or by environment. The writer regards as extravagant the claims of authors who favor heredity as the chief factor.—J. T. Metcalf (Vermont).

4256. Rosinski, B. Anthropogenetische Auslese. (Anthropogenetic selection.) *Anthrop. Anz.*, 1929, 6, 49-64.—A study of the determinants of homogamy in the Pultusk district.—R. R. Willoughby (Clark).

4257. Thompson, W. S. The eugenics bugaboo. *Amer. Mercury*, 1930, 19, 33-37.—(*Soc. Sci. Abst.* II: 9706).

4258. Von Verschuer, O. Erbpsychologische Untersuchungen an Zwillingen. (Investigations on the mental heredity of twins.) *Zsch. f. induktive Abstam.- u. Vererbungslehre*, 1930, 54.—Note on the variability of intelligence of identical twins compared with that of ordinary twins. Using the Rorschach tests the author finds identical twins to be much more alike than dizygotic twins.—J. C. Spence (Clark).

4259. White, R. K. Inherency. *J. Genet. Psychol.*, 1930, 37, 321-325.—The term *inherency* (meaning the sum of heredity and family environment) is offered as preferable to *heredity* in many situations in which the latter is used, as the distinction between heredity and environment is usually difficult to maintain.—J. F. Dashiell (North Carolina).

[See also abstracts 4283, 4356, 4461.]

#### SPECIAL MENTAL CONDITIONS

4260. Ananyev, B., & Dubrovski, A. [Essay toward a reflexological study of hypnosis.] *Nov. ref. fiziol. nerv. sist.*, 1929, 3, 447-458.—The hypnotic condition was approached in this work by the reflexological type method. The usual conditioning procedure was followed with each subject under identical conditions during the after-hypnosis. Examination of the developmental trends in the hypnotic process reveals essential differences among three types: The somnambulistic type is characterized before hypnotization by plasticity followed by inhibition. The lethargic type exhibits utter inhibition in

the pre-hypnotic state, which presumably is maintained during hypnosis. Post-hypnotically, complete plasticity occurs. The cataleptics are generally plastic before hypnosis, alternately plastic and inhibited during it, and fully plastic thereafter. The intensity of the grasping reflex indicates the relative excitement of the somnambulists and the inhibited nature of the lethargics; the cataleptics occupy an intermediate position. A comparative reflexological analysis of hysterics and neurasthenics demonstrated that the former are more excitable and plastic than the latter, who are marked by a preponderant inhibition. Hypnosis without suggestion has a very definite influence on the modification of associative-reflex activity in personality determinations.—A. V. Yarmolenko (Leningrad).

4261. [Anon.] Library catalogue (supplement) 1928-1929. *Proc. Soc. Psych. Res.*, 1929 (December).—R. R. Willoughby (Clark).

4262. [Anon.] La determinación de los tipos psicologicos. (The determination of psychological types.) *Rev. de ped.*, 1928, 7, No. 83.—R. R. Willoughby (Clark).

4263. Binger, A. Erotik und Inserat. (Erotism and advertising.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1928, 15, No. 6.—R. R. Willoughby (Clark).

4264. Brush, E. N. Observations on the temporal judgment during sleep. *Amer. J. Psychol.*, 1930, 42, 408-411.—The author found it possible to judge time with a considerable degree of accuracy during a period of sleep. Before going to sleep the predetermined time of awakening was repeated ten times, and the actual time of awakening was taken to the nearest minute. General physical condition, the amount and character of sleep, mental activity subsequent to the setting up of the determination, illumination in the room, and motivation were found to be conditions favorable or unfavorable to the operation of the determination.—D. E. Johansson (Rochester).

4265. Burrow, T. Über Phylopathologie und Psychoanalyse. *Zentbl. f. Psychotherap.*, 1930, 3, 394-411.—See IV: 1070.—M. A. M. Lee (Chicago).

4266. Calkins, M. W., & Gamble, E. A. McC. The self-psychology of the psychoanalysts. *Psychol. Rev.*, 1930, 37, 277-304.—An attempt to show that the implied psychological doctrine of the psychoanalysts is essentially personalistic, and that self-psychology can interpret all the facts discovered by psychoanalysts. The concept of "unconscious" is discarded as illogical and untenable; even the psychoanalysts tend to regard it as a kind of self, or dissociated personality, and hence best handled in terms of self-psychology. The concept of the impersonal "complex" is replaced, even in psychoanalytic thinking, by the wholly personalistic conception of the complex as a self's obsessing desire. The authors feel that psychoanalytic procedure would gain immensely by completely discarding its impersonalistic remnants and embracing self-psychology.—A. G. Bills (Chicago).

4267. Cattell, R. B. The effects of alcohol and caffeine on intelligent and associative performance. *Brit. J. Med. Psychol.*, 1930, 10, 20-33.—50 subjects, half of whom were men and half women, ranging in

- age from 19 to 59, were given parallel forms of memory and intelligence tests on five consecutive days twenty minutes after taking the five disguised solutions containing: 10 gms. (12.5 cc.) alcohol, 20 gms. alcohol, plain water, 0.2 gms. caffeine, 0.4 gms. caffeine. These solutions were taken in different orders by the different subjects and their identity was not detected by them. The tests were made at 6 p.m. after uncontrolled daily activity. All but the middle-aged subjects did less well in both tests after taking the larger doses of alcohol and caffeine. The older subjects improved. Sex differences were not clear-cut. True individual differences exist as to the effect of the smaller doses. Members of the same family tended to respond in the same way. There is some evidence that intelligence improves with 10 gms. of alcohol and deteriorates under 0.2 gms. of caffeine, while associative reproduction of ideas is improved by caffeine and impaired by alcohol in proportion to the amount taken.—*M. A. M. Lee* (Chicago).
4268. Cimbali, W. *Die Struktur der Verwahrlosung.* (The morphology of demoralization.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—*R. R. Willoughby* (Clark).
4269. Culler, E. A phobic case. *Brit. J. Med. Psychol.*, 1930, 10, 46-69.—Culler describes two basic types of individual which he considers can be differentiated from birth. The exocentric has "definite and stable behaviour-patterns, whose ready-made mechanisms reflect the stimulus back into prompt and overt action." The endocentric's response is organic rather than external. The intrasomatic elaboration he gives to each stimulus complicates his choice of action and results in an attempt at avoidance of an environment which he cannot dominate. He becomes the intravert as classified by Jung. W. E. Leonard is described as a typical endocentric. The early psychic trauma of the locomotive experience was principally due to a betrayal of trust in his father. The same betrayal motive reappeared again and again throughout his life, fixing a fear-flight response. Eventually several stimuli became conditioned to produce the reaction and three distinct drives served to activate it. A careful two-year analysis succeeded in reintegrating the neurotic with the normal system, but failed to produce a cure, because of the two the neurotic system was the stronger. The result was that the phobic mechanism, no longer shut off, became able to dominate the entire mental life.—*M. A. M. Lee* (Chicago).
4270. Daly, C. D., & White, R. S. *Psychic reaction to olfactory stimuli.* *Brit. J. Med. Psychol.*, 1930, 10, 70-87.—A brief historical summary of references to the sexual significance of odors is given by Daly. White outlines evidence of chemotropisms in animals. Daly considers certain odors to be potent factors in arousing the sex impulse in man. He concludes that hysterical symptoms, being somatic conversion phenomena due to the repression of unconscious sexual desires, may be relieved by the use of valerian, the dislike of which is to be attributed to sex inhibitions and taboos. He suggests the use of appropriate odors and aphrodisiacs as associative aids in analysis and psychotherapy.—*M. A. M. Lee* (Chicago).
4271. David-Schwarz, H. *Psychologische Beratung. Eine Eheberatung.* (Psychological advice. A case of marital advice.) *Psychol. Rundschau*, 1930, 2, 87-91.—Detailed account of a successful readjustment.—*H. M. Beckh* (Munich).
4272. Dearborn, G. V. N. Notes, theoretic and therapeutic, on worry. *U. S. Vet. Bur. Med. Bull.*, 1930, 6, 551-558.—Worry is a chronic fear state and, like acute fear, may result in physical injury. Cheerfulness and good humor are indicated as therapeutic measures.—*C. M. Louttit* (Ohio).
4273. Ford, A. A check on character analysis. *Person. J.*, 1930, 9, 121-123.—A commercial system, based partly on the use of skull measurements and purporting to give accurate character analyses, was applied to a sample of 18 university students under rigidly controlled laboratory conditions. The average correlation of the character analysts' ratings with university grades and self-ratings was not appreciably higher than was obtained by pure chance.—(Courtesy *Person. J.*)
4274. Funk, C., & Harrow, B. The male hormone. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 4.—*R. R. Willoughby* (Clark).
4275. Ghadiali, D. P. F. American sex problems. Malaga, N. J.: Spectro-Chrome Institute, 1930. Pp. 242. \$3.00.—*R. R. Willoughby* (Clark).
4276. Gillespie, R. D. *Sleep and the treatment of its disorders.* New York: Wood, 1930. Pp. ix + 267.—This volume is written primarily for practitioners and stresses the pathological aspects of sleep and their treatment. It also presents a comprehensive review of the literature on the physiology and pathophysiology of sleep as well as on theories of sleep. There is a long list of references.—*N. L. Munn* (Pittsburgh).
4277. Goldschmidt, E. *Zwei Fälle weiblicher homosexueller Fürsorgezöglinge.* (Two cases of homosexuality in institution girls.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1928, 15, No. 4.—*R. R. Willoughby* (Clark).
4278. Götz, B. *Vierklees und Myrte.* (Clover and myrtle.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 15, No. 8.—*R. R. Willoughby* (Clark).
4279. Hartshorne, H., May, M. A., & Shuttleworth, F. K. *Studies in the nature of character. III. Studies in the organization of character.* New York: Macmillan, 1930. Pp. xv + 503. \$2.75.—The two previous volumes of the Character Education Inquiry, *Studies in Deceit* and *Studies in Service and Self-Control*, concluded that conduct represents an achieved association between a certain type of situation and a certain type of response, and that when an observer is impressed by the resemblances among a variety of acts, there is no evidence that in grades 5 to 8 the children themselves have developed any great sensitiveness to these resemblances, either as motives or clues to action. The present volume applied the entire battery of tests to 850 children in three contrasting populations. The results are presented as confirming the principle of specificity. In proportion as situations are alike, conduct is correlated. In proportion as situations are unlike, conduct is uncorrelated. It may be said that during the age period

studied moral habits are specifically related to moral situations through the medium of non-moral experience. Although the average integration is rather small, there are significant differences among children in the amount of integration of response. Some children have learned to be honest or dishonest in more situations or have become more acutely aware of the honest or dishonest implications of these situations than have children in general. Their behavior as a result is relatively consistent. For these children the doctrine of specificity holds with less force. The conclusions respecting integration are based on an analysis of the integration of honesty. A critical discussion of the influence of the nature of the tests of honesty upon the relation of honesty to integration is given in Chapter XXI, and the statistical problems involved are treated in an appendix. The contributions to the theory of character education made by the Inquiry are presented in the last chapter.—H. D. Lasswell (Chicago).

4280. Jou y Olio, L. Valor de las ideas para reformar la conciencia. (The value of ideas in the training of conscience.) *Rev. de ped.*, 1928, 7, No. 82.—R. E. Willoughby (Clark).

4281. Kantorovich, N. [Alcohol and the excitatory and inhibitory processes in the central nervous system.] *Nov. revl. fiziol. nerv. sist.*, 1929, 3, 210-219.—This experiment was preceded by establishing a bond between the note "do" and an electrodermal stimulus. This particular note was differentiated from others. Size, persistence, and respiratory curve data were taken for both the alcohol test series and the control series, which were alternated throughout the study. Moderate doses of the fluid (300-600 grams) were administered. Results indicate that doses in these quantities produce an initial excitement in the breathing centers, and possibly on the subcortical vegetative centers. The disturbance of cortical associative processes is conditioned to some extent by the arousal of a subcortical dominant.—A. V. Yarmolenko (Leningrad).

4282. Kantorovich, N. [An attempt at associative-reflex therapy in alcoholism.] *Nov. revl. fiziol. nerv. sist.*, 1929, 3, 436-447.—Subjecting the mechanism of alcoholic habituation to a reflexological analysis, the author finds that its development in chronic cases proceeds by an associative process. From this standpoint, alcoholism is a pathological associated reflex. Conditioned stimuli here are the visual, olfactory, and verbal aspects of alcohol. If the alcoholic stimulus was presented with a strong electrodermal stimulus, a stable defensive reflex to the alcoholic excitant was formed in the patients. This reflex took the shape of a withdrawal of the hands and body and mimio-somatic reactions of repugnance. 20 confirmed alcoholics were treated in this manner with the "associated reflex therapy." After the treatment, most of them did not use alcohol for months. A comparison of this type of therapy with the other methods employed in the Leningrad Psychiatric Hospital indicates its superiority.—A. V. Yarmolenko (Leningrad).

4283. Kaufmann, G. Die Gefahr der Vererbung von Geisteskrankheiten. (The danger of inheritance in mental diseases.) *Psychol. Rundschau*,

1930, 2, 76-78.—The author gives the figures for the frequency of dementia praecox and manic-depressive insanity in the general population in Germany, and estimates the chances of inheritance of these diseases. He stresses the importance of preventing the propagation of persons affected by them.—H. M. Beckh (Munich).

4284. Kolmer, W. Bemerkungen zu der Arbeit von E. Scharrer und H. I. Scherer. Beitrag zu der Frage des experimentellen Hyperfeminismus. (Observations on the work of E. Scharrer and H. I. Scherer. Contribution to the question of experimental hyperfeminism.) *Zsch. f. vergl. Physiol.*, 1929, 9, 520-521.—Kolmer suggests that his earlier work would explain the experimental conclusions of the other two writers, resulting from their studies on the effect of sex hormones on the development of fetuses *in utero*. They concluded that a female organism may be influenced in its development by the male hormone, but not vice versa. Kolmer found that there was an intermediate cell-stage in the development of the embryo between that of the somatic cells and that of the sex cells proper, which was reached earlier in the male organism than in the female. This mechanism acted in a protective manner for the male sex cells against the hormones of the mother. On the other hand, the female fetus is lacking this protection against the male hormones that might arise from a twin having attachment to the mother through the same placental circulation. He cites an example of such an influence in man. The brother grew to normal manhood, married, and had children. The twin sister was weaker from birth, attained a rather low level of intelligence, and possessed body proportions and build tending in the direction of an intersex. The midwife had told the mother, at the time of birth, that both placentae were attached at the same place.—W. D. Commins (Stanford).

4285. König, A. Ehereform? (Marriage reform?) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 15, No. 8.—R. R. Willoughby (Clark).

4286. Loewenthal, J. Zum Rathenau-problem. (The Rathenau problem.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1928, 15, No. 6.—R. R. Willoughby (Clark).

4287. Luetgebrune, W. Die Verweigerung der ehelichen Geschlechtsgemeinschaft durch die Frau und ihre rechtlichen Folgen. (The refusal of marital sexual association by the woman and its legal consequences.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 15, No. 7.—R. R. Willoughby (Clark).

4288. Mattisson, K. Ett fall av habituellt simulation. (A case of habitual simulation.) *Svenska läkart.*, 1929, No. 22.—R. R. Willoughby (Clark).

4289. Nevski, I., & Arkhangelskaya, I. [Influence of hypnosis on the morphology of the white corpuscles.] *Nov. revl. fiziol. nerv. sist.*, 1929, 3, 138-145.—Under hypnotic influence, various changes in the morphological condition of the white blood may be observed. These changes do not conform to any one type. The following possibilities occur: an increase in the total number of leucocytes or in special varieties of them; normal ratio; tendencies toward diminution. In half of the experiment the leucocyte total decreased 10-15% on the average, the remainder being unchanged or enlarged. The percent of neu-

trophilia showed no characteristic change during hypnosis. Lymphocytes were found in inverse proportion to the neutrophilia. In most experiments, their numbers were decreased, often imperceptibly. The number of monocytes was generally increased or unchanged. Changes in the eosinophilia and basophilia were less characteristic.—A. V. Yarmolenko (Leningrad).

4290. Nevski, I., & Sryashchich, K. [Influence of hypnosis on muscular strength.] *Nov. revl. fiziol. nerv. sist.*, 1929, 3, 458-480.—Dynamometric measures of muscle strength in normal waking condition, during hypnosis, and in post-hypnotic suggestion led to the following findings: Hypnosis without special suggestion as to change in muscle strength produces an insignificant drop of the latter in weak hypnosis, but a total adynamy in deep hypnosis. A special suggestion in mild hypnosis diminishes muscular strength considerably (from 50% up to complete adynamy); however, a corresponding suggestion was inadequate to increase it. Post-hypnotic suggestions have practically no effect on muscle strength. On the basis of these results, the authors suggest that natural adynamy (achieved without suggestion) is an index of deep hypnosis, while suggested adynamy is the mark of a moderate trance. This conclusion, however, is purely tentative in view of the imperfections in the present technique.—A. V. Yarmolenko (Leningrad).

4291. Oeser, O. Typological methods in experimental psychology. *Psyche*, 1930, 10, 80-89.—The typology of E. Jaensch may be regarded as in some ways a synthesis of the methods of Kretschmer, Scheler, Henning, Stern and Heymans. If psychological experiments are consistently carried out with due regard for the existence of structural types, a great deal of contradiction and controversy is avoided. Experiments on reading furnish an example of the simplification and unification resulting from the typological treatment. The work of Messmer, Schumann, Wagner, and Grossart on tachistoscopic experiments illustrates confusion over subjective and objective types. The fact that instructions may alter the normal reactions has been neglected in the controversy.—E. R. Hilgard (Yale).

4292. Peal, L. D. Fruchtabtreibung und Findelhaus. (Abortion and foundling asylums.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1928, 15, No. 5.—R. R. Willoughby (Clark).

4293. Praetorius, N. Die Homosexualität des Prinzen Heinrich von Preussen, des Bruders Friedrichs des Grossen. (The homosexuality of Prince Henry of Prussia, brother of Frederick the Great.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 15, No. 7.—R. R. Willoughby (Clark).

4294. Raizisun, Y. Secret of dreams; scientific interpretation of dream life. Milwaukee: Caspar, Krueger, Dory, 1930. Pp. 42. \$5.00.—R. R. Willoughby (Clark).

4295. Rank, O. Technik der Psychoanalyse. II. Die analytische Reaktion. (The technique of psychoanalysis. II. The analytic reaction.) Leipzig: Deuticke, 1929. Pp. 121. M. 7.00.—R. R. Willoughby (Clark).

4296. Ranulf, S. Die moralische Reaktion gegen neomalthusianische Propaganda in Dänemark. (The

moral reaction against neo-Malthusian propaganda in Denmark.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 16, No. 1.—R. R. Willoughby (Clark).

4297. Ross, T. A. Some difficulties in analytical theory and practice. *Brit. J. Med. Psychol.*, 1930, 10, 1-19.—The author complains of the ambiguity and vagueness of some of the Freudian terminology. If, for instance, the Oedipus complex is rigorously defined it is gratuitous to read it into many cases for which a more simple explanation may be found. Many neuroses are due to trauma in adolescence. To cure them it is not necessary to unearth infantile complexes. Sometimes cases are much helped merely by the taking of a comprehensive free history. With this technique an analysis may be made by any physician which though less complete than the orthodox one is often adequate and should be a part of general medical care.—M. A. M. Lee (Chicago).

4298. Schmitz, O. A. H. Carl Gustav Jung, der Topograph des Unbewussten. (Carl Gustav Jung, topographer of the unconscious.) *Psychol. Rundschau*, 1929, 1, No. 8.—R. R. Willoughby (Clark).

4299. Schmitz, R. IV. Internationaler Kongress für Parapsychologie. Athen, April 1930. (Fourth international congress for parapsychology, Athens, April, 1930.) *Psychol. Rundschau*, 1930, 2, 65-69.—This article represents the first part of a report on this year's International Congress for Parapsychology. It does not tell about the theories that were advanced, but simply recounts some of the practical experiments that were reported: (1) experiments on mental telepathy, by Constantinidis; (2) an instance of clairvoyance, by Wassilka-Serecki; (3) an apparition, by Winterstein, with attempted explanation on psychoanalytical lines; (4) a case of xenoglossia, by Kindborg. There are none of the reported phenomena for which one could not find countless parallels in parapsychological literature. There were neither new theories or experiments nor new results. To Schmitz it seems as impossible as ever to consider parapsychology a science.—H. M. Beckh (Munich).

4300. Schneider, E. Psychoanalyse und Pädagogik. (Psychoanalysis and pedagogy.) (Päd. Mag., Heft 1302.) Langensalza: Beyer & Söhne, 1930. Pp. 72. RM. 2.30.—In order to emphasize the importance of psychoanalysis in interpreting and removing common problems in the school situation the author describes eleven typical cases. In these a prompt cure was effected by bringing to consciousness the incident to which the later stuttering, stealing, educational failure, etc., were due. A brief statement is given of the sources and mechanism of conflict in the four critical periods: birth, developing of consciousness, end of childhood at 6-7 years, and beginning puberty. If conflict occurs and is not satisfactorily resolved its repression into the unconscious is betrayed by symptoms such as nausea, shame, sympathy, anxiety, and feeling of guilt. Recognition of the value of psychoanalysis in elucidating the difficulties of both teacher and pupil is urged upon the educator.—M. A. M. Lee (Chicago).

4301. Schöndorf, F. [Ed.] Wünschelrutentagung des Internationalen Vereins der Wünschelrutenforscher vom 19. bis 21. September 1927 in Hildesheim. (Meeting of the International Association of Dowisers, Sept. 19-21, 1927, in Hildesheim.) Hildes-

heim: Römer-Museum, 1930. Pp. 21. M. 2.00.—*R. R. Willoughby* (Clark).

4302. Sigg, M. Bericht über den fünften allgemeinen ärztlichen Kongress für Psychotherapie, April 1930, Baden-Baden. (Report on the fifth general medical congress on psychotherapy.) *Psychol. Rundschau*, 1930, 2, 80-82.—Kretschmer was president of the congress. The obsessive neuroses were chosen as the main topic. Fear and rage, doubts and feelings of guilt, inhibitions and inabilities were reported as causes of the disease. Frequently the obsessive action takes the place of a religious ceremony for the patient. This makes it necessary for the psychiatrist to have some understanding of the religious development and needs of the patient. This special topic was covered by Hauer. Sigg recommends Hauer's book *Das religiöse Erlebnis auf den unteren Stufen*.—*H. M. Beckh* (Munich).

4303. Stein, M. R. Hypnotism to-day. *Scient. Mo.*, 1930, 31, 86-88.—From the fad of hypnotic therapy of the nineteenth century has evolved a new field of scientific experimentation, the professors of which speak of hypnosis in equivocal terms.—*J. F. Dashiell* (North Carolina).

4304. Suter, J. Aus der psychologischen Institutspraxis. Lehren aus dem Fall "Der hoffnungslose Student." (From the practice of a psychological institute. Principles from the case of a hopeless student.) *Psychol. Rundschau*, 1929, 1, No. 8.—*R. R. Willoughby* (Clark).

4305. Suter, J. Über die psychotechnische Methode der Charakterbestimmung. (Psychotechnical methods of character determination.) *Psychol. Rundschau*, 1929, 1, No. 8.—*R. R. Willoughby* (Clark).

4306. Syz, H. C. Remarks on group analysis. *Amer. J. Psychiat.*, 1928, 8, No. 1.—It is the aim of group analysis to determine those primary factors of conflict and of obstructed function which are found in the interactions of the community at large; factors which are regarded as not peculiar to neurotic behavior, but occurring in any normal manifestation. Burrow has found a tendency to live up to an image of self—a state of constant transference to the exactions of this self-image as it is projected upon the persons and institutions that compose the surroundings. It is the purpose of group analysis to search into inhibitive factors found active throughout man's social interfunctions generally. It has been astonishing to note under the conditions of experiment to what a degree definite self-contradictions can be determined in habitual social interreactions; the individual does not suspect in any way the conflicting tendencies he himself is expressing. One is struck by the quite automatic interlocking of mutual mood-attitudes and by a sort of obsessive interplay that seems to revolve in a vicious circle. It has become apparent that the elements which in the past have obstructed unified and direct function are identical with those factors which are observable in the contradictions and interferences of the immediate social situation.—*L. B. Hill* (Sheppard & Enoch Pratt Hospital).

4307. Traumann, F. E. Konkubinats und Rechtsordnung. (Concubinage and the law.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 16, No. 1.—*R. R. Willoughby* (Clark).

4308. [Various]. Zur Klärung der Wünschelrutenfrage. (On the clearing up of the divining rod question.) Munich: R. Oldenbourg, 1930. Pp. 72. M. 3.50.—Contains 13 articles on the question by K. Osswald; a protocol on investigations with the divining rod in the region of Freiberg im Sachsen by F. Schumacher; a protocol on investigations with the divining rod near Neustädtel im Erzgebirge in 1929 by F. Schulze; an account of investigations with misleading results by R. von Maltzahn; and an experiment on water with the divining rod by R. von Maltzahn.—*J. C. Spence* (Clark).

4309. Verner, A. Table rapping and automatic writing. Milwaukee: Caspar, Krueger, Dory Co., 1930. Pp. 25. \$ .25.—*R. R. Willoughby* (Clark).

4310. Vértési, F. Az örom, mint szociális probléma. (Happiness as a social problem.) *Társadalombiztosítási Közlöny*, 1929, 23, 393-410.—(*Soc. Sci. Abst.* II: 9637).

4311. Vorwahl, H. Die Sexualität bei Luther. (Sexuality in Luther.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1928, 15, No. 5.—*R. R. Willoughby* (Clark).

4312. Vorwahl, H. Die Sexualität im Zeitalter der Aufklärung. (Sexuality in the period of the Enlightenment.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1929, 15, No. 8.—*R. R. Willoughby* (Clark).

4313. Washburn, M. F., Hughes, E., Stewart, C., & Slight, G. Reaction time, flicker, and affective sensitiveness as tests of introversion and extroversion. *Amer. J. Psychol.*, 1930, 42, 412-413.—In an effort to find objective tests which would discriminate between extroverts and introverts, 42 college women belonging to each group (on the basis of the Marston and Freyd questionnaires) were tested as to reaction-time, point at which the flicker of a black-white disc disappeared, and degree of sensitiveness to external environmental factors; the latter was measured by the method of paired comparisons of colored papers on a neutral background, and pairs of nonsense syllables. The difference between the reaction-times of the two groups was negligible (chances 72 out of 100 that the true difference was greater than 0). The difference in the speed with which the flicker disappeared for the two groups was fairly reliable (93 chances out of 100), but in the wrong direction, the extroverts showing greater retinal inertia than the introverts. The final test was the most reliable, (95 chances out of 100 that a true difference greater than 0 exists), but that test was the least objective of the three. The conclusion is that there is little hope that an objective test of introversion-extroversion will be found.—*D. E. Johansson* (Rochester).

4314. Wolff, W. Über Faktoren der charakterologischen Urteilsbildung. (Factors influencing the judgment of character.) *Zsch. f. angew. Psychol.*, 1930, 35, 385-446.—The author's sub-title, *Preliminary Studies to an Experimental Characterology*, indicates the general purpose of his work. He attempts an analysis of the various factors which enter into and influence judgments of character. The experimental aspect of his work consists in asking subjects to match the voices of individuals with samples of their handwriting; written descriptions of individuals with samples of their handwriting; and finally matching profiles with photographs of the hands of

the same individuals. An analysis of his results reveals that the following factors are influential: (1) individual factors; the ability of the judging individual and the expressive value of the different types or kinds of expressions; (2) supra-individual factors; the psychology of the judging process, configurational factors, and dynamic factors.—*R. H. Waters* (Arkansas).

(See also abstracts 4100, 4104, 4105, 4141, 4185, 4204, 4234, 4356, 4380, 4411, 4416, 4451, 4467, 4485, 4503, 4552, 4579.)

#### NERVOUS AND MENTAL DISORDERS

4315. Allers, R. Die internationale Tagung für angewandte Psychopathologie und Psychologie. (The international meeting for applied psychopathology and psychology.) *Zentbl. f. Psychotherap.*, 1930, 3, 389-394.—Applied disciplines arise from two motives: an expansion need of the science, and a need in the field to which it is applied. In contrast to most meetings where representatives of applied branches are especially conspicuous, at Vienna the basic sciences and theoretical viewpoint were also well represented. A brief review is given of the chief contributions.—*M. A. M. Lee* (Chicago).

4316. Angrove, R. H. Psychopathic disorders among ex-service men. *Canadian Med. Assn. J.*, 1930 (April).—*R. R. Willoughby* (Clark).

4317. [Anon.] First world congress on mental hygiene. (Report.) *Ment. Hygiene Bull.*, 1930, 8, 1-7; 16.—*R. R. Willoughby* (Clark).

4318. [Anon.] Bibliography of officers of the department of mental hygiene. *Psychiat. Quar.*, 1929, 3, No. 3.—*R. R. Willoughby* (Clark).

4319. [Anon.] General statistical information. *Psychiat. Quar.*, 1929, 3, No. 3.—*R. R. Willoughby* (Clark).

4320. [Anon.] The adaptive behavior of low grade feeble-minded. *Tr. School Bull.*, 1929, 25, 27-29.—*R. R. Willoughby* (Clark).

4321. [Anon.] Mental patients in state hospitals 1926 and 1927. *U. S. Bur. Census Rep.*, 1930. Pp. iii + 129.—(*Soc. Sci. Abst.* II: 9825).

4322. Battery, P. B., & Thayer, W. N. The defective delinquent. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 69-81.—The defective delinquent is in need of separate institutional care and training. He is defined as "an offender who, because of mental subnormality, at times coupled with mental instability, is not amenable to the ordinary custody and training of the average correctional institution." Training should take the form of trade instruction, scholastic education, and physical training. The aim of this training is that of developing habits of self-control and the habit of, and respect for, industry. Although commitment is indefinite, parole is the ultimate aim. Pre-parole training is urged for the purpose of increasing the responsibilities and privileges of the inmates. Statistics concerning the Napanoch (New York) population for 1928 are included, among which the following facts are brought out: 49% of the population ranges between the ages of 16 and 20 years; only 22% had mental ages below 8 years; 35% were charged with burglary, etc.; 20% with petit larceny, etc.; and 18% with

sex crimes, etc.—*M. W. Kuensel* (Vineland Training School).

4323. Berg, F. Retrobulbar opticusneuritis vid frontallobstumör. (Retrobulbar optic neuritis with tumor of the frontal lobe.) *Svenska läkart.*, 1929, No. 22.—*R. R. Willoughby* (Clark).

4324. Björck, P. Arbetsterapin inom sinnessjukvården. (Occupational therapy in mental hospitals.) *Svenska läkart.*, 1929, No. 51.—*R. R. Willoughby* (Clark).

4325. Bopp, L. Typen jugendlicher Psychopathen vom Gesichtspunkt des Pädagogen aus. (Types of young psychopaths from the point of view of the teacher.) *Blät. f. Anstalts-Päd.*, 1930, 3, 65-84.—*A. Römer* (Leipzig).

4326. Buhl, G. H. The education of low-grade feeble-minded through job-analysis. *Tr. School Bull.*, 1928, 25, 1-10.—*R. R. Willoughby* (Clark).

4327. Butler, F. O. Care and treatment of the defective delinquent. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 52-61.—Special care and treatment is advocated for defective delinquents. They should be treated as defectives and not purely as delinquents or criminals. A California bill providing for separate institutional units for the defective delinquents of both sexes is incorporated. Sterilization takes place before they are released from the Sonoma State Home at the present time. The psychopaths now are receiving treatment with the defective delinquents, although it is hoped that in time they too can be isolated for special treatment.—*M. W. Kuensel* (Vineland Training School).

4328. Chaplain, D. Some aspects of Hindu medical treatment. London: Luzac, 1930. Pp. 71. 3/6.—Gives some account of methods of Hindu psychotherapy. Derived mainly from the work of S. M. Mitra.—*F. C. Bartlett* (Cambridge, England).

4329. Coleman, E. H. The shutter of snow. New York: Viking, 1930. Pp. 245. \$2.50.—Autobiography, in free-association style, of the course of a toxic exhaustive psychosis.—*R. R. Willoughby* (Clark).

4330. Dayton, N. A. The relationship between physical defects and intelligence. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 112-139.—The author presents an elaborate statistical study of the physical defects and intelligence of 14,379 retarded school children in Massachusetts. Correlation between intelligence and weight showed that underweight and physical defects were more characteristic of children whose IQ's are less than 70 than of those whose IQ's are above 70. The mean IQ of the males was 71 and that of the females 69.—*M. W. Kuensel* (Vineland Training School).

4331. Doll, E. A. Community control of the feeble-minded. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 161-175.—Less than one-tenth of the feeble-minded in this country are being cared for in public institutions. The social control of the remaining nine-tenths has received but little administrative attention. Institutional care either need not or cannot be provided for most of them. A program of community control for these non-institutionalized defectives is suggested. This program includes eugenic sterilization for some, education in

special classes in the public schools, parole of certain institutional cases, and the development of community mental clinics.—*M. W. Kuensel* (Vineland Training School).

4332. Doll, E. A. Public health aspects of mental hygiene. *Tr. School Bull.*, 1930, 27, 62-68.—Community public health work now reckons with mental health as a factor in community welfare. The public health worker should know the causes of mental ill health and the methods of dealing with mental maladjustments.—*E. M. Achilles* (Columbia).

4333. Doll, E. A., & Murphy, D. P. A case of microcephaly following embryonic roentgen irradiation. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 211-219.—This is a case study of a mentally deficient child who received heavy roentgen irradiation in early embryonic life. The child is microcephalic. The evidence points to irradiation as the cause of the abnormal condition.—*M. W. Kuensel* (Vineland Training School).

4334. Fleck, U. Erkrankungen der peripheren Nerven. (Diseases of the peripheral nerves.) *Fortschr. d. Neur. Psychiat. u. Grenzgeb.*, 1930, 2, 319-332.—Review of recent literature.—*R. H. Waters* (Arkansas).

4335. Foley, R. W. A study of the patients discharged from the Rome State School for the twenty year period ending December 31, 1924. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 180-207.—This is a tentative statistical report of a survey of all (3091) patients who were discharged during a twenty-year period from the Rome State School, an institution for the feeble-minded in New York State. Of this group 48% died; 7% were transferred to other institutions or agencies for care; and 2% were recommitted to Rome. For approximately 20% adequate information has not yet been secured, but for about the same number a reasonable amount of field work has been completed. The work records of the latter group, the amount of supervision required by them, court records (21% of the boys and 8% of the girls had court records), marital and home conditions of those who married (9% of the boys and 62% of the girls married), and numbers having children are all reported.—*M. W. Kuensel* (Vineland Training School).

4336. Giannelli, V. Due idioti microcefalici. (Two microcephalic idiots.) *Rass. stud. psich.*, 1930, 19, 217-247.—The author presents the case of two microcephalic brothers. After anthropological and clinical consideration of the patients he examines current opinions on the pathogenic and anthropological significance of microcephaly. Since the data show no symptoms indicating a localized brain lesion, and since the functional reduction affects the psychical and motor functions equally, the author believes that one can describe the syndrome in question as due to an arrest of development of the central nervous system, rather than to any pathological process.—*G. C. Ferrari* (Bologna).

4337. Giesen, M. Merkmale einfacher Verwahrlosung und ihre Unterscheidung von der Psychopathie. (Signs of simple neglect and its differentiation from psychopathy.) *Jugendwohl*, 1930, 4, 89-96.—*A. Römer* (Leipzig).

4338. Hegge, T. G. Research work at the Wayne County Training School, Northville, Michigan. Northville, Mich.: Training School, 1930. Pp. 16. \$25.—In his introduction Hegge points out that the Training School is in the process of developing a research program. Students who want to do research work with high-grade feeble-minded and socially and educationally maladjusted children with a view to obtaining a degree or course credit in the University of Michigan may be appointed fellows. Lou Kennedy gives statistics on the frequency of speech defects in different feeble-minded groups. She found a marked contrast between a normal and a moron group in the prevalence of three individual speech disorders: hoarseness, which was seventeen times as prevalent among the feeble-minded as among the control; morbid emotional quality, which was three times as prevalent; and oral inactivity, which was twice as prevalent. Speech defects were more severe and more common among the male than among the female subjects. Edward B. Greene is working on the development of a battery of non-language tests. Flora Mercer Brennan reports a reading case, the IQ of which has varied between 70 and 87; the boy was a non-reader and training was fairly successful. Z. Pauline Hoakley reports considerable changes in IQ. By using 17 as divisor she found not only the highest number of constants but a per cent of increase and decrease among the older children more nearly related to that of the younger group. Hegge reports a study of logical memory made with about 200 feeble-minded boys, and a study of the relation between interest and ability made with an outstanding memory prodigy. In his last article he outlines a program for research in the effects of remedial reading in supposedly feeble-minded children, and reports the study of an unusually hard case, a non-reader, IQ 60, extremely maladjusted and anti-social. This negro boy, who has outstanding abilities along mechanical lines, has been trained in reading with success. The results indicate the importance of individual treatment of institutionalized children who would otherwise be likely to become criminals or dependents.—*T. G. Hegge* (Wayne County Training School).

4339. Jacobi, W., & Winkler, H. Die Bedeutung der Hirnlufteinblassung (Enzephalographie) für die Heilpädagogik. (The significance of air encephalography for therapeutic pedagogy.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 3.—*R. R. Willoughby* (Clark).

4340. Krestnikoff, N. Die heilende Wirkung künstlich hervorgerufenen Reproduktionen von pathogenen affektiven Ergebnissen. (The therapeutic effect of artificially evoked reproductions of pathogenic affective experiences.) *Arch. f. Psychiat. u. Nervenkrankheiten*, 1929, 88, 369-410.—(*Soc. Sci. Abst.* II: 9832).

4341. Kuensel, M. W. A survey of Mongolian traits. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 149-160.—This is a quantitative study of the characteristics of 31 Mongolian feeble-minded with reference to the frequency of occurrence of the traits by methods of observation and measurement, the comparative significance of the traits as shown by the frequency with which seemingly

"typical" traits occur in children who are not Mongolian, and suggestions for etiology. Each "typical" Mongolian was paired with a child of similar life age and Binet mental age. Four observers cooperated in collecting data. Each child was scored with reference to 265 observable characteristics, and measurements of height, weight, and head were secured. The relative frequency of occurrence of these traits among Mongolians is presented as well as the comparative frequency of the same traits.—*M. W. Kuensel* (Vineland Training School).

4342. Lane, W. D. The world's work for mental hygiene. *Survey*, 1930, 63, 699.—(*Soc. Sci. Abst.* II: 9833).

4343. Lange, M. Orthopädie und Neurologie. (Orthopedy and neurology.) *Fortschr. d. Neur. Psychiat. u. Grenzgeb.*, 1930, 2, 301-318.—Recent advances in the orthopedic treatment of neurological disorders.—*R. H. Waters* (Arkansas).

4344. Lukina, A., & Matusova, S. [Characteristics of conditioning in epileptics.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 419-436.—The peculiar disturbances of associative and reflex activity in genuine epileptics with pronounced symptoms and feeble-mindedness form the basis of this paper. The obtained data led to the following conclusions: It is impossible to produce an errorless differentiated motor reaction to an electrodermal stimulus linked with a verbal command—in one group a transfer of excitation to the mimio-somatic sphere occurs, and in the other, one observes the beginning of a generalized inhibition. The formation of a differentiated associative-motor response to a verbal command, however, takes place very easily. The period of stimulation has no effect on the duration of the associated reflex through an increase in the motor excitation. A regular pause between the experiments favors the fixation of the reaction and results in a more precise differentiation. A marked retardation in the simple and association reaction was observed. Irradiation of excitatory processes in the cortex was witnessed during the formative stages of the response. These associative characteristics in epileptics are unique, and distinct from related phenomena in normals, and in other maladies of personality such as progressive paralysis, oligophrenia, schizophrenia, etc.—*A. V. Yarmolenko* (Leningrad).

4345. MacCurdy, J. T. Diagnostic significance of sensory auras in epilepsy. *Brit. J. Med. Psychol.*, 1930, 10, 34-45.—Following the suggestion of Gowers that profound emotion may be an excitant of epilepsy, a study was made of the auras of a large number of epileptics in New York State Hospitals. Among the idiopathic cases those who had not deteriorated described a great variety of premonitory phenomena which are invariably sensory in character and emotionally unpleasant. Fear is commonly felt. The subjects believe that distraction of attention from the aura will prevent the seizure. "The patient always regards the attack as something brought on by a hypochondriacal obsession against which he has to struggle." In organic or Jacksonian epilepsy, on the other hand, the aura is motor. It is viewed objectively and unemotionally by the patient. This furnishes an important aid in the differential diagnosis of epilepsies where neurological signs are doubtful. The author warns against confusion where

the two types of epilepsy are combined or where a subjective idiopathic type with characteristic aura has followed the Jacksonian when the organic lesion has improved. He also emphasizes that the aura is never the cause of the attacks and that the removal of it will only result in the manufacture of another by the patient.—*M. A. M. Lee* (Chicago).

4346. McPherson, G. E. Address of the president. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 176-179.—The general public as well as the legislatures are convinced of the necessity of providing for mentally defective children in public educational and custodial institutions. The higher type of boy or girl, who possesses a comfortable and adaptable personality, ought to be capable of being trained to self-support through either the agency of the special class in the public school or by special institutional training.—*M. W. Kuensel* (Vineland Training School).

4347. Meggendorfer, F. Gerichtliche Psychiatrie. (Legal psychiatry.) *Fortschr. d. Neur. Psychiat. u. Grenzgeb.*, 1930, 2, 285-300.—A review of the field of forensic psychiatry, dealing particularly with the laws governing insurance, opium and alcohol traffic, divorce and juvenile offenders.—*R. H. Waters* (Arkansas).

4348. Murphy, D. P. Maternal pelvic irradiation as a cause of microcephaly. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 208-210.—This article emphasizes the possible danger to the fetus of maternal pelvic irradiation during pregnancy. It suggests a new etiological factor for feeble-mindedness in general and microcephaly in particular. The outcome of 106 pregnancies in which pelvic irradiation had taken place after conception showed that 76 of them went to term and of these children 25, or approximately 33%, exhibited gross structural deformities. Microcephaly occurred in 17 of the 25 cases, indicating that there must have been some common influence at work.—*M. W. Kuensel* (Vineland Training School).

4349. Myasishchev, V. [Experimental evidence on the problem of objective indices in sensory disorders.] *Nov. ref. fsiol. nerv. sist.*, 1929, 3, 458-480.—This investigation of sensitivity employed the associative-galvanic reflex method in addition to the registration of breathing movements, pulse, and personal inquiry. The advantage of the galvanic technique is that the reaction occurs involuntarily and is measurable with a high degree of precision. Patients with hysterical anesthesia and hyperesthesia were examined; in several experiments hypnosis was also employed. In cases of complete hysterical anesthesia the galvanic reaction was preserved to a simple stimulus. The natural associated reflexes, such as response to a threat, were also intact. The associated reflex can be elicited and differentiated when the associated or simple stimulus affects the anesthetic body region. Quantitatively, the reactions on the afflicted side may be either weaker or stronger than the normal. The response following a prick or the threat of a prick are generally weaker on the anesthetic side than on the sound side. Functional and hypnotic hypesthesia intensify the reactivity. Fluctuations in the results depend upon different types and degrees of disorder.—*A. V. Yarmolenko* (Leningrad).

4350. Orton, S. T. The relation of the special educational disabilities to feeble-mindedness. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 23-32.—The author challenges the modern viewpoint regarding the development of mind, which he believes is based on two assumptions, namely, the unitary character of the intelligence and the uniform rate of its unfolding. Present tests measure accomplishment and not intelligence. The former is influenced by reading disabilities. Before accepting present test results as final the importance of recognizing special educational disabilities is emphasized. Attempts should then be made to correct them by special methods. He supports the view that the failure of establishment of unilateral cerebral dominance is the fundamental obstacle to reading progress. Current neurology is said to hold that difficulties in language function rest much more largely on disturbances of associative processes than on the loss of restricted memories, such as those for words.—M. W. Kuensel (Vineland Training School).

4351. Petré, A. Redogörelse för den nya sinnessjuklagen. (An account of the new insanity laws.) *Svenska läkart.*, 1929, No. 41, 42, and 43.—R. R. Willoughby (Clark).

4352. Phillips, A. Talented imbeciles. *Psychol. Clin.*, 1930, 18, 246-265.—Three cases are presented: (1) a Mongoloid very near "the zero point in the scale of social efficiency," who has, nevertheless, a striking talent for words; (2) a boy with an IQ of 92 whose lack of social conformity and inability to care for himself rate him as an imbecile, but who has a remarkable talent for numerical calculation; (3) a well-conformed boy of low intelligence with a very high degree of mechanical ability. Only the last of these cases gives promise of being able to take his place as a responsible member of human society.—J. T. Metcalf (Vermont).

4353. Pike, H. V. An obligation of the public school to the mental defective. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 140-148.—Defective delinquents, criminals, bearers of illegitimate children, all result from idle years of general shiftlessness and indifferent attitudes which are bred while waiting in school for release when sixteen years of age. The author proposes that in school systems where special classes provide nothing but modified academic work and not manual or vocational work they either provide for such necessary equipment and instruction or upon the recommendation of the psychiatrist allow the backward child of 13 years or over to withdraw from school and be placed under practical vocational guidance at the hands of responsible citizens in the community, these citizens to be under school supervision.—M. W. Kuensel (Vineland Training School).

4354. Pollock, H. M. Annual statistical review of patients in the state hospitals and private licensed institutions for mental disease. *N. Y. (State) Dept. Ment. Hygiene*, June 30, 1928, 143-271.—(Soc. Sci. Abst. II: 9780).

4355. Prengowski, P. Zur Therapie und Pathogenese einiger sogenannte funktioneller psychischer Erkrankungen. (The therapy and pathogenesis of some so-called functional mental diseases.) *Allg.*

*Zsch. f. Psychiat.*, 1930, 92, 360-372.—(Soc. Sci. Abst. II: 9838).

4356. Rovasio, A. Qualche osservazione sulla prole dei morfinomani. (Observations of the children of morphinomaniacs.) *Rass. stud. psich.*, 1930, 19, 193-216.—The author presents three cases (Basedow disease, solare crisis, pentosuria) in young subjects, children of morphinomaniac parents; also the father of the pentosuric—wherefore the author calls attention to the occurrence of direct hereditary transmission, very rare, of this anomaly. The author afterward discusses the pathogenesis of these cases, with particular reference to the typical specific influence of morphine on the vegetative system, which influence results in the morbid phenomena in question.—G. C. Ferrari (Bologna).

4357. Schultz, I. H. Über Sinn und Organisation psychotherapeutischer Kongresse. (The thought and organization of psychotherapeutic congresses.) *Zentbl. f. Psychotherap.*, 1930, 3, 386-389.—Previous congresses are reviewed and a plan proposed for a congress in which a central topic could be considered from the widely different viewpoints of related sciences. This would avoid the danger of the psychotherapeutic field becoming too narrow. Problems which might be so treated are listed.—M. A. M. Lee (Chicago).

4358. Storrs, H. C. A report on an investigation made of cases discharged from Letchworth Village. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 220-232.—A sociological survey of all discharges from Letchworth Village, an institution for the feeble-minded in New York State, was made. 53% could be located. The author concludes that of these cases the data show that 3 of every 4 who were discharged apparently made a successful adjustment in the community.—M. W. Kuensel (Vineland Training School).

4359. Thom, D. A. Epilepsy. *U. S. Vet. Bur. Med. Bull.*, 1930, 6, 435-443.—The present knowledge of epilepsy would indicate that its etiology and pathology are not constant. It is a symptom complex rather than a disease entity and should be treated as such.—C. M. Louttit (Ohio).

4360. Town, C. H. What happens in the psychological clinic? Buffalo, N. Y.: Children's Aid Society, 1929. Pp. 194.—This report presents a resumé of the work of the psychological clinic of the Children's Aid Society, the child-placing and child-caring agency of Buffalo, New York, over a five-year period from 1922-27. Written for the non-professional reader by the director of the clinic, it contains, in addition to the general introduction, three studies of the regular clinical material, groups of feeble-minded, of children presenting behavior problems, and of unmarried mothers. These studies each include brief discussions, statistical summaries and illustrative cases. Two other studies complete the report. The first is a comparison of 42 institutional children with a control group of over 500 family home children in respect to mental development and particularly language ability. The second study presents a questionnaire developed for determining in the clinic the emotional trends of subjects. The point of view throughout the report is that of the social worker.—E. B. Newman (Kansas).

4361. Town, C. H., & Hill, G. E. How the feeble-minded live in the community. Buffalo, N. Y.: Children's Aid Society, 1930. Pp. 284.—As a result of the distinctive policy of the Rome State School for the feeble-minded, it was possible to study the adequacy of the later adjustments of 136 persons paroled or discharged from this institution during nineteen years. This study was made in conjunction with the less intensive state-wide survey being conducted by R. W. Foley of Colgate University. The fact that commitments were secured for only one-eighth of those diagnosed as feeble-minded in the clinic of the Children's Aid Society indicates the great importance of any policy such as colonization and parole if it proves to be successful. Those paroled, representing about 40% of the commitments, should represent the most likely successes. It is startling to find, then, that only eight cases, less than 6% of those paroled, made a satisfactory adjustment. The remainder failed ranging in degree from partial dependency to chronic violation of the law, prostitution, and insanity. It would appear that, in order to make the parole system effective, much more extensive and specialized education and more careful supervision in the community will be necessary. The report includes case histories of the entire group and a statistical analysis and summary.—E. B. Newman (Kansas).

4362. Von der Leyen, R., & Marcuse, D. Stätten für Beratung, Beobachtung und Unterbringungen psychopathischer Kinder und Jugendlicher. (Establishments for the advice, observation and care of psychopathic children and adolescents.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 4.—R. R. Willoughby (Clark).

4363. Wallgren, A. Fall av hjärntumör? (A case of brain tumor?) *Svenska läkart.*, 1929, No. 15.—R. R. Willoughby (Clark).

4364. White, W. A. The origin, growth and significance of the mental hygiene movement. *Science*, 1930, 72, 77-81; *Ment. Hygiene*, 1930, 14, 555-564.—Presidential address delivered at the First International Congress on Mental Hygiene, Washington, D. C., May 6, 1930.—R. R. Willoughby (Clark).

4365. Willey, G. F. The mental handicaps of delinquents: a preliminary study of the neuropsychiatric findings in over 1700 white male reformatory prisoners. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 100-111.—A group of 1710 reformatory prisoners between the ages of 15 and 25 from a Pennsylvania institution were given physical, psychological, psychiatric, and neurological examinations. An analysis of the data from these studies shows that approximately 40% of the prisoners are mentally defective. This is appreciably higher than statistics from the draft army. In addition to mental defect, neurological disease, epilepsy, psychopathy, psychoneurosis, and psychotic conditions were found in greater numbers than in the army examinations.—M. W. Kuensel (Vineland Training School).

4366. Woodall, C. S. The Army Alpha Test applied to mental defectives. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 82-90.—The Army Alpha Test was given to 268 patients of two schools for the feeble-minded and the results were

compared with recent Stanford-Binet mental ages. The validity of the army standard is discussed. Guessing influences success on the Alpha to such an extent that this test is considered an inaccurate measure for use with adult mental defectives. The study resulted in a new table of equivalents for use with adult mental defectives. It showed that school work lags consistently behind that which would be expected from mental age. The arithmetic score is lower than the general average of all studies.—M. W. Kuensel (Vineland Training School).

4367. Woodall, C. S. The incidence of congenital syphilis in an institution for the feeble-minded. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 231-248.—The Wasserman, Kahn, and Hinton reactions were done on 1314 patients in an institution for the feeble-minded. Congenital syphilis was present in 6.5% of the cases. The diagnosis of syphilis was based on both serological and clinical examinations and was given in 7.2% of the cases. The author believes that mental defect may be caused by congenital syphilis. Defective heredity was present in 16% of the congenital luetics.—M. W. Kuensel (Vineland Training School).

[See also abstracts 4105, 4211, 4251, 4390, 4421, 4430, 4435, 4443, 4493, 4505, 4562.]

#### SOCIAL FUNCTIONS OF THE INDIVIDUAL

4368. Adler, M. Die Bedeutung Vicos für die Entwicklung des soziologischen Denkens. (The significance of Vico for the development of sociological thought.) *Arch. f. d. Gesch. d. Sozialismus u. d. Arbeiterbewegung*, 1929, 14, 280-304.—Vico taught that the psychic undergoes orderly changes under the influence of the changes in the satisfaction of human needs and the means of such satisfaction, thus leading to an orderly development of images and thought. He set forth the dialectic rôle of the selfish drives which are basic to human actions. These express themselves within the limits and influences of a social organization, and in turn lead to social organization, often without the consciousness or even against the will of man.—(*Soc. Sci. Abstr.* II: 8483).

4369. [Anon.] Penultima; scientific, basic, mnemonic; the language of science; international terms; bilingualism in Bengal; simplification and irregularity; methodological; panoptic conjugation; the diagram of operators; opposition. *Psyche*, 1930, 10, 1-28.—An 850-word vocabulary of Basic English is presented, which is said to be equivalent in efficiency to approximately 5000 words in any simplification hitherto attempted. There are also presented 100 words required for general science, and 50 for a particular science (chemistry). By means of a total of 1000 words any scientific congress or periodical can achieve internationalism. The chart of panoptic conjugation consists of a series of lines radiating from the referent of a word (e.g., dog). The lines represent routes of definition in various relationships. Ordinary language provides special terms (conjugates) at the periphery (for dog: puppy, cur, Pekinese, setter, bitch). The method of Basic English is to dispense with the conjugate at the periphery through beginning with the word at the center and covering the radial definition route in not more than nine other words. The problem of oppo-

sition is discussed in the light of the treatments of Aristotle and of Tarde.—*E. R. Hildgard* (Yale).

4370. [Anon.] *Sobre la mentalidad fascista.* (The Fascist mentality.) *Rev. de fil.*, 1928, 14, 43-56.—(*Soc. Sci. Abst.* II: 8266).

4371. Baber, R. E. Factors in law enforcement. *Soc. Forces*, 1929, 8, 198-208.—The controls from within have indisputable advantages over the controls from without, and hence should be given our increasing support. There can be no social control without self control, and when the inner controls are strong the outer controls need be little more than regulatory social guidance.—(*Soc. Sci. Abst.* II: 8571).

4372. Bailey, L. C. Recreation in rural western North Carolina. *Univ. North Carolina Extension Bull.*, 1929, 9, 85-90.—(*Soc. Sci. Abst.* II: 9709).

4373. Barnett, L. D. The genius: a study in Indo-European psychology. *Roy. Asiat. Soc. J.*, 1929, 731-748.—(*Soc. Sci. Abst.* II: 7418).

4374. Bauhofer, O. *Das Metareligiöse.* (The metareligious.) Leipzig: Heinrichs, 1930. Pp. 271. M. 13.50.—The author examines especially the point in religious consciousness where the problem of faith becomes acute.—*A. Römer* (Leipzig).

4375. Baumann, E. D. Primitive vorstellungen angaande de ontvangingen. (Primitive ideas regarding conception.) *Mensch en Maatschappij*, 1930, 6, 252-268.—Baumann emphasizes first the fact that many savage tribes, those of today as well as those described by leading anthropologists in the past, are ignorant of the relation between sex intercourse and conception, despite precocious and continued sex activity. He attempts to explain the various psychological and material facts which would help to maintain this ignorance, and then describes various mystical traditional explanations of conception which have been adopted by various savage tribes in different parts of the world and which survive to some extent in folk-lore to-day. The long interval between conception and childbirth and the fact that intercourse by no means always resulted in pregnancy confused the savage when taken in conjunction with his ignorance of the anatomy and histology of the internal sex organs. Even when it was understood that the child seed had to enter the mother in some way, the rôle of the father remained obscure, and certain foods, etc., were thought to contain the seed. A transition stage toward full knowledge is that in which the male is recognized as necessary for opening the passage for the child seed, but some god or ancestral spirit is still regarded as the power which introduces it into the mother. The stork of modern folk-lore is a survivor from among these child-bringing powers.—*E. M. Pilpel* (New York City).

4376. Bolitho, W. The psychosis of the gang. *Survey*, 1930, 63, 501-506; 545.—(*Soc. Sci. Abst.* II: 8570).

4377. Bongers, W. A. Die criminaliteit van Nederland. (Criminality in the Netherlands.) *Mensch en Maatschappij*, 1930, 6, 230-251.—This lecture presents and discusses 5 graphs and 12 tables showing the frequencies of different types of crime per 100,000 of population in different provinces of the

Netherlands, in cities as compared with rural districts and small towns, before and after the war, etc. The fluctuation of aggressive crime with alcoholism is stressed. Swindling and embezzlement are shown to have increased strongly from 1909 to 1927, in the Netherlands as elsewhere. Cases of murder and manslaughter have decreased in the Netherlands from 4.8 per million inhabitants in 1911-1915 to 3.6 in 1927. Sexual crime shows an increase. Cases of grave bodily injury and manslaughter through criminal negligence show a strong increase, from 1.2 per million inhabitants in 1911-1915 to 3.5 in 1927. Bongers ascribes this increase largely to speeding. In view of the great differences between the legal codes and methods of different nations, Bongers does not attempt a precise international criminological comparison. His general impression is, however, that the criminological record of the Netherlands is relatively favorable, and that this country, like England, Belgium, and the Scandinavian countries, is one with low criminality. This finding is in accord with the doctrine of heredity, for "the Netherlands are, relatively speaking, a civilized and prosperous country."—*E. M. Pilpel* (New York City).

4378. Bradford, G. Eve enthroned. *Yale Rev.*, 1929, 19, 95-113.—A character sketch and evaluation of Catherine the Great of Russia.—(*Soc. Sci. Abst.* II: 4271).

4379. Brown, E. C. A study of two groups of Denver married women applying for jobs. *U. S. Women's Bur. Bull.*, No. 77, 1929. Pp. 10.—(*Soc. Sci. Abst.* II: 8067).

4380. Bucklin, D. R. Studies of breakdowns in family income: broken families. *Family*, 1930, 11, 3-13.—Differences of personal character rather than external circumstances were the chief factors in bringing about the disintegration of 167 out of 745 dependent families.—(*Soc. Sci. Abst.* II: 8520).

4381. Calkins, D. M. Social situations and religious attitudes. *Sociol. & Soc. Res.*, 1930, 14, 249-255.—(*Soc. Sci. Abst.* II: 8604).

4382. Carrard, A. Psychologie der Führung. Ein Beitrag zur Frage der Ertüchtigung der Vorgesetzten. (The psychology of leadership. A contribution to the problem of the training of leaders.) *Psychol. Rundschau*, 1929, 1, No. 8.—*R. R. Willoughby* (Clark).

4383. Christian, V. Zur Frage "Kultur und Körperbau." (On the question of culture and body structure.) *Mitt. anthrop. Gesellsch. Wien*, 1930, 60, 33-38.—(*Soc. Sci. Abst.* II: 8846).

4384. Densmore, F. Some results of the study of American Indian music. *J. Wash. Acad. Sci.*, 1928, 18, 395-408.—(*Soc. Sci. Abst.* II: 7393).

4385. Dubois, H. M. Assimilation on adaptation. (Assimilation or adaptation.) *Africa*, 1929, 2, 1-21.—(*Soc. Sci. Abst.* I: 2577).

4386. Foston, H. M. Man and the image of God. London: Macmillan, 1930. Pp. vii + 230. 7/6.—Employs the conventional tripartite division of mental functions into knowing, feeling and striving as an argument for a transcendent Trinity, and develops consequences from this in regard to the material creation, the incarnation and the position of love in the order of things.—*F. C. Bartlett* (Cambridge, England).

4387. Francke, H. Die Altersgrenzen im künftigen Jugendstrafrecht. (Age limits in the future juvenile penal code.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 3.—R. R. Willoughby (Clark).

4388. Garth, T. R. Eugenics, euthenics, and race. *Opportunity*, 1930, 8, 206-207.—An elementary exposition of the methods and results of testing for psychological differences between races. Emphasis is placed on the probable relation of differences in environmental opportunity to differences in intelligence test performance.—R. Leeper (Clark).

4389. Geck, L. H. A. Social psychology in Germany. II. *Sociol. & Soc. Res.*, 1929, 14, 105-129.—(*Soc. Sci. Abst.* II: 8485).

4390. Hackbusch, F. A study of 258 inmates of the Pennsylvania Industrial Reformatory. *Proc. & Addr. Amer. Asso. Stud. Feeble-Mind.*, 1929, 34, 33-51.—IQ's below 75 according to the Terman Group Test on 258 delinquent boys were correlated with results on the psychological tests used in predicting vocational success, namely the Pintner-Paterson Performance Scale and Healy Pictorial Completion II. Further, they were correlated with the psychiatrist's ratings of the boys' probable success on parole, with the crime for which committed, with their behavior record in the institution, and with success on parole. The boys ranged in age from 15 to 26 years, and in mental age from 10.3 to 11.8 years. One-half were native whites and the rest of foreign parentage or negroes. The boys had a higher percentage of sex crimes and a lower percentage of automobile thefts than boys with higher IQ's. Predictions of success were found to be unreliable on the basis of either the Pintner-Paterson or the Healy tests. The psychiatric rating of success was the most reliable prediction. The boy's behavior in the institution and his degree of mentality showed a high relationship with his success on parole.—M. W. Kuenzel (Vineland Training School).

4391. Harding, T. S. Do scientists merit power? *Soc. Forces*, 1929, 8, 118-125.—A close view of scientists shows them to be absolutely unfit to rule. Their deliberate limitation of interest to highly specialized fields makes them narrow in outlook and deplorably lacking in general knowledge. They will not broaden their interests nor apply their technique to other problems. They seldom display interest in general problems of human welfare. They do not discipline their emotions. They utterly fail to humanize their knowledge, and show an almost contemptuous disinclination to popularize it or to call the attention of the layman to scientific methodology. They have even become incomprehensible to each other. Until these significant shortcomings are corrected scientists will remain totally unfit to rule.—(*Soc. Sci. Abst.* II: 5011).

4392. Heller, T. Über atypische Sprachentwicklungen. (Atypical speech development.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 4.—R. R. Willoughby (Clark).

4393. Herbertz, —. Eine kriminalpsychologische Kernfrage. Individualisierung des Strafvollzugs. (A basic problem in criminal psychology. Individualization of punishment.) *Psychol. Rundschau*, 1929, 1, No. 8.—R. R. Willoughby (Clark).

4394. Hirschberg, W. Kultur und Körperbau. (Culture and body structure.) *Mitt. anthrop. Gesellschaft. Wien*, 1930, 60, 20-32.—(*Soc. Sci. Abst.* II: 8849).

4395. Johnson, C. S. The negro in American civilization. New York: Holt, 1930. Pp. xiv + 538. \$4.00.—Sixteen national organizations engaged in work in negro-white relations formed a central executive committee in 1926 which formulated plans for intensive study of various phases of the race problem, culminating in a conference in 1928. This book is a summary of this research and an effort "to construct a reasonably faithful contemporary picture of negro life and the status of race relations." The subject is defined as "Race Problems in the United States in the Light of Social Research" and is divided into topics as follows: health; education; industry and agriculture; recreation; housing; law observance and administration; citizenship; race relations. In Part I of the book each of these questions is taken up with statistical detail, the historical background presented, the present situation analyzed, and recommendations for improvement made. Part II contains addresses to the conference upon the same subjects. After each address opportunity was given for handing in written questions, which were then discussed by experts in the several fields. These questions are given, together with summaries of the discussions. One conclusion reached is that many current beliefs regarding the negro, notably that he is racially susceptible to disease, racially incapable of education, or racially apt to violate laws, are held as the result of misinterpreted or incomplete statistics and are not supported by facts. There is a bibliography of about 500 titles, a list of members of the conference, and a program of its proceedings.—M. P. Montgomery (Faribault, Minn.).

4396. Klein, D. B. The psychology of conscience. *Int. J. Ethics*, 1930, 40, 246-262.—(*Soc. Sci. Abst.* II: 9642).

4397. König, H. Zur Ästhetik der Musik. (Concerning the esthetics of music.) *Arch. f. d. ges. Psychol.*, 1930, 75, 145-167.—The first part of this theoretical discussion is concerned with esthetics in general. The cause of the esthetic experience is the esthetic attitude of a person and not an attribute of beauty in nature or a piece of art. Esthetics is therefore concerned not with the beautiful but with the esthetic processes and the objects serving as stimuli for them. In one type of esthetic processes the esthetic attitude merely combines with the perception of the objects into a complex esthetic experience. In another type the esthetic abilities modify the conscious contents, as is seen especially in artistic creation. The second part is concerned with the esthetics of music in particular. Here the author discusses the characteristics of tones serving as stimuli for musical experience, the peculiarities of the esthetic attitude in this experience, and the fact that so many different meanings may be attached to the same series of musical stimuli.—K. F. Muenzinger (Colorado).

4398. Krauss, R. Über graphischen Ausdruck. Eine experimentelle Untersuchung über das Erzeugen und Ausdeuten von gegenstandsfreien Linien. (Concerning graphic expression. An experimental investigation of the production and inter-

pretation of objectless lines.) *Zsch. f. angew. Psychol.*, 1930, Beiheft 48. Pp. vi + 141.—In the first experiment, 45 subjects were individually asked to draw with a pencil line representations of various affective states (e.g., happy, furious), the affective values of appearances (e.g., bright, dull, red), and the feelings aroused by materials (wood, glass, iron). The drawings were to constitute representations of affective states, and in no case to represent objects. A supplement gives 376 photographic reproductions of the drawings obtained. An inserted chart gives a quantitative analysis of the types of lines drawn under the various instructions. Complete protocols are given for 15 of the subjects. In general, subjects were able to express to their own satisfaction distinguishable feelings through the line drawings. A second experiment reversed the conditions. Subjects were presented with reproductions of ten typical drawings representing ten of the tasks in the first experiment. The drawings were correlated with the given list of names by some 242 subjects, and there was 72.5% perfect correspondence in the obtained pairs of responses. The lines served as intelligible expressions to the subjects of distinguishable experiences. There is no clear relationship between the geometry of the line and its affective value. The relation of the findings to contemporary physiognomy and characterology are discussed.—*E. R. Hilgard* (Yale).

4399. Kwint, L. A. Sprachanomalien bei schulpflichtigen Kindern und ihre Bekämpfung. (Speech anomalies in children of school age and their therapy.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 3.—*R. R. Willoughby* (Clark).

4400. Lind, A. W. Occupational trends among immigrant groups in Hawaii. *Soc. Forces*, 1928, 7, 290-299.—(*Soc. Sci. Abst.* I: 2467).

4401. Lowenthal, —. Essai sur la psychologie de la guerre: Les deux faces de la civilisation. (Essay on the psychology of war. The two faces of civilization.) *Rev. mondiale*, 1929, 190, 375-396.—(*Soc. Sci. Abst.* II: 8137).

4402. Lowie, R. H. American Indian cultures. *Amer. Mercury*, 1930, 20, 362-366.—Comparison is made of three American Indian cultures, and the vast differences between them are pointed out. The author comments that these "barely suggest the true heterogeneity of aboriginal life."—*J. T. Metcalf* (Vermont).

4403. Merti, J. [The workers as a social class.] *Socialni Rev.*, 1929, 10, 428-439.—(*Soc. Sci. Abst.* II: 8046).

4404. Michaëlis, E. Vom "Verbrecher aus Schuldbewusstsein." (The criminal from a sense of guilt.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—*R. R. Willoughby* (Clark).

4405. Michaud, E. Psychologie des Américains. (The psychology of the Americans.) *Rev. Hebdomad.*, 1929, 39, 162-182.—"This nation which cuts so important a figure in the world, is inhabited in great part by the sick, the worn out, and neurotics."—(*Soc. Sci. Abst.* II: 4354).

4406. Miles, S. The function of the critic. *Brit. J. Psychol.*, 1930, 20, 372-385.—The critic proper is considered to be other than teacher and more than merely touchstone. In the opinion of the writer, he

is called upon first to determine whether in any given case there has been any esthetic impression to express, and second, in what respects the expression is adequate or inadequate. It is suggested that, in so far as the critic is a constructive critic, he is himself an artist, at least fleetingly and fragmentarily.—*M. Drury Smith* (Cambridge, England).

4407. Modráček, F. The psychological factor in the cooperative movement. *Moderni Stát.*, 1929, 2, 267-270.—(*Soc. Sci. Abst.* II: 8099).

4408. More, A. Opposition—logical, psychological and orthological. *Psyche*, 1930, 10, 29-52.—Opposites may be either the two extremes of a continuous scale (black and white the extremes of a gray series), or the two sides of a cut (red and green the two sides of a cut through the intermediate gray). A third feature of opposition is direction. Thus many opposites may be diagrammed as rectilinear motion in opposite directions (up and down, backward and forward). The opposition of a figure and its mirror image (enantiomorph) is an example of rotation through the third dimension. The enantiomorph in three dimensions is turned into its mirror-image hypothetically by rotating in the fourth dimension. An approximation to this rotation is the forming of one glove into the image of its mate by turning it inside out. The principles set forth are used in the analysis of 25 examples of opposition. A projectional diagram of opposition is provided, the key to the examples being in each case in terms of opposition by cut, scale, or definition. A series of symbols are given for oppositional notation. The practical significance of the account of the nature of opposition is its contribution to the problem of word economy in the work on a universal language.—*E. R. Hilgard* (Yale).

4409. Morris, E. H. Measuring leadership. *Person. J.*, 1930, 9, 124-127.—Fitness for specific lines of work is often conditioned largely by personal characteristics. Measures of the fundamental trends of personality and of such characteristics as accuracy, assurance, etc., should be viewed as parts of a composite estimate of the individual instead of being used separately. A technique employed in detecting the kind of leadership which contributes significantly to success in teaching has shown that the following kinds of measures are useful: direction and degree of feeling, typical social attitudes, tactfulness in comment and action, and insight and social judgment. These traits are measured indirectly as well as directly, and results scored in a differential rather than descriptive fashion. The scores may be combined in a profile rating chart which offers possibilities for scientific study of individual differences.—(Courtesy *Person. J.*)

4410. Müller, J. Über die Unterschiede von Gefängnisfürsorge, Straffälligenpflege und Gerichtshilfe. (The distinction between prison welfare work, penal treatment and assistance to the court.) *Monatsschr. f. Krimpsychol., u. Strafrechtsref.*, 1929, 20, 597-606.—(*Soc. Sci. Abst.* II: 8344).

4411. Nieuwenhuis, A. W. Meinungen der primitiven Völker über das Geschlechtsleben der Menschen. (Ideas of primitive peoples on the sex life of man.) *Indische Gids.*, 1929, 51, 1213-1224.—(*Soc. Sci. Abst.* II: 8850).

4412. Nieuwenhuis, A. W. Das Patriarchat und das Matriarchat in Australien. (The patriarchate and matriarchate in Australia.) *Int. Arch. f. Ethnol.*, 1928, 29, 127-152.—(*Soc. Sci. Abst.* II: 3762).
4413. Oseretsky, N. I. Die minderjährigen Rechtsbrecher. (The minor law-breaker.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 1.—R. R. Willoughby (Clark).
4414. Pear, T. H. A suggested term: euphasia. *Brit. J. Psychol.*, 1930, 20, 371.—A suggestion that the term *euphasia* should be used to indicate the ability for deliberate, adequate verbal expression.—M. Drury Smith (Cambridge, England).
4415. Powys, L. The pathetic fallacy: a study of Christianity. London: Longmans Green, 1930. Pp. 129. 5/.—Studies the development of Christian ideas and practice from their origin to current times. Concludes that Christianity is a "dream of savagery and pitifulness."—F. C. Bartlett (Cambridge, England).
4416. Roheim, G. Animism, magic and the divine king. London: Kegan Paul, 1930. Pp. xviii + 386. 21/.—This is a psychoanalytical study of primitive society. The topics dealt with are: animism and the other world; the psychology of magic; the medicine-man and the art of healing; the divine king; and the scapegoat. A large number of customs are described and considered. The explanation of everything turns on castration anxiety. The primal horde "appears as a super-organic attempt to imitate the process of specialization that led to the development of the gametic cells." The whole course of human development has been "a succession of genitopetal and genitofugal currents of the libido."—F. C. Bartlett (Cambridge, England).
4417. Rost, E. R. The nature of consciousness. London: Williams & Norgate, 1930. Pp. 158. 12/6.—An exposition of Buddhist ideas.—F. C. Bartlett (Cambridge, England).
4418. Russell, B. Psychologie und Politik. (Psychology and politics.) *Neue Rundschau*, 1930, 5, 600-610.—A. Römer (Leipzig).
4419. Russell, O. D. Suicide in Japan. *Amer. Mercury*, 1930, 20, 341-344.—The author touches briefly on a number of aspects of the problem of suicide in Japan. Although the man who commits *harakiri* is celebrated as a hero, the suicide rate in Japan is not as high as it is in some parts of Europe. In Japan, however, the ratio is two men to one woman, while in Europe and America it is three or four men to one woman. This the author explains by the increasing prevalence of *shinju*, the nearest American equivalent of which is the suicide pact of the tabloids.—J. T. Metcalf (Vermont).
4420. Sapir, E. What is the family still good for? *Amer. Mercury*, 1930, 19, 145-151.—The family is still needed to give the sex relation its greatest emotional value, to rear children in an atmosphere of intelligent affection, to socialize the individual, and to prepare the child unconsciously for satisfactory mating in the future.—(*Soc. Sci. Abst.* II: 8523).
4421. Schairer, J. B. Psychognostische Aufhellung religiöser Abnormalitäten. (Psychognostic explanation of religious abnormalities.) *Zsch. f. Religionspsychol.*, 1929, 2, 29-40.—(*Soc. Sci. Abst.* II: 9790).
4422. Schubert, A. Drawings of Orochen children and young people. *J. Genet. Psychol.*, 1930, 37, 232-244.—Drawings made by children, 10 to 20 years of age, of the Orochens, a hunting tribe of Siberia, are excellent examples of naturalistic art similar to those of other hunting peoples of Asia, America, and elsewhere, which in turn have been found to resemble cave drawings of paleolithic man. The Orochen drawings were made without any previous practice whatever, and were not representations of designs passed from one generation to another: they express a primitive naturalism unmarred by religious conceptions or by abstract symbolic language. They are interpreted as the outlines of eidetic images projected on paper.—J. F. Dashiell (North Carolina).
4423. Seymour, J. S. Rural social distance of normal school students. *Sociol. & Soc. Res.*, 1930, 14, 238-248.—(*Soc. Sci. Abst.* II: 8566).
4424. Siegfried, A. The French mind. *Atl. Mo.*, 1929, 144, 744-754.—(*Soc. Sci. Abst.* II: 8153).
4425. Siegfried, A. The psychology of French politics. *Atl. Mo.*, 1930, 145, 87-96.—(*Soc. Sci. Abst.* II: 8291).
4426. Sperber, H. Die Sprache der Barockzeit. (The language of the baroque period.) *Zsch. f. Dtschkd.*, 1929, 43, 670-684.—(*Soc. Sci. Abst.* II: 4245).
4427. Stephenson, G. M. The mind of the Scandinavian immigrant. *Studies & Records: Norwegian-Amer. Hist. Asso.*, 1929, 4, 63-73.—(*Soc. Sci. Abst.* II: 9131).
4428. Stoutemyer, J. H. Some psychological aspects of language. *Kadelpian Rev.*, 1930, 4, 331-337.—Language is considered as a vehicle for ideas rather than from the more usual standpoint of logical structure, with illustrations from the experiences of Helen Keller, Laura Bridgman and others.—M. P. Montgomery (Faribault, Minn.).
4429. Teagarden, F. M. Some psychological trends in modern literature. *Kadelpian Rev.*, 1930, 4, 309-322.—The historical-psychological trend in literature of the last five or six years is shown particularly in the prevalence of the case-study type of biography. Many examples are cited and commented upon from two viewpoints, that of the work itself and as a revelation of the personality of the writer.—M. P. Montgomery (Faribault, Minn.).
4430. Thayer, W. N., Jr., & Battey, P. B. The defective delinquent. *J. Psycho-Asthenics*, 1929, 34, 69-81.—Description of the Napanoeh institution.—(*Soc. Sci. Abst.* II: 8689).
4431. Thurnwald, R. Neue Forschungen zum Mana-Begriff. (New investigations of the mana concept.) *Arch. f. Religionswiss.*, 1929, 27, 93-112.—(*Soc. Sci. Abst.* II: 7432).
4432. Vernon, P. E. The phenomena of attention and visualization in the psychology of musical appreciation. *Brit. J. Psychol.*, 1930, 21, 50-63.—The writer studied the musical appreciation of a large number of subjects by means of questionnaires and specially devised concerts. It was found that music had striking physical effects on the organism, stimulating bodily and mental activities. Often highly pleasurable wanderings of attention and free trains of thought were excited. The more musical subjects

tended to inhibit this type of response. As a result of the resemblance of music to the sounds and motions of physical objects, listeners sometimes constructed for themselves dramatic interpretations or visual dramas; these were enjoyed for their own sake. Imagery which was directly stimulating and which followed closely the form and rhythm of the music was comparatively rare, and was almost wholly absent among the most musical. The relation between visualization and emotion and fatigue, and the degree of agreement between the interpretations of the different subjects are discussed.—*M. Drury Smith* (Cambridge, England).

4433. *Visher, S. S. Geography of American mayors. Scient. Mo., 1930, 31, 40-42.*—A preliminary analysis of biographical material concerning 100 mayors is furnished.—*J. F. Dashiell* (North Carolina).

4434. *Von Schulze-Gaevernitz, G. Die geistigen Grundlagen der angelsächsischen Weltherrschaft, I, II. Die geistesgeschichtlichen Grundlagen der anglo-amerikanischen Weltsuprematie, III. (The spiritual foundations of Anglo-Saxon world domination, I, II. The intellectual background of the Anglo-American world supremacy, III.) Arch. f. Sozialwiss. u. Sozialpol., 1926, 56, 26-65; 1927, 58, 60-112; 1929, 61, 225-265.—(Soc. Sci. Abst. I: 7080).*

4435. *Weihs, H. Partial insanity and criminal intent. Illinois Law Rev., 1930, 24, 505-527.—(Soc. Sci. Abst. II: 8621).*

4436. *Wembridge, E. R. Escape. Amer. Mercury, 1929, 18, 230-235.*—A case study of a girl whose career of delinquency was motivated by a desire to escape from being known by her own name.—*J. T. Metcalf* (Vermont).

4437. *Wembridge, E. R. Sometimes we are fooled. Amer. Mercury, 1929, 18, 489-495.*—A number of cases are described to show how often it happens in psychological work in the courts that an individual defies all the commonly accepted classifications.—*J. T. Metcalf* (Vermont).

4438. *West, M. Speaking vocabulary in a foreign language. Psyche, 1930, 10, 53-64.*—The acquisition of a vocabulary, and practice in using it, are primary in the learning of a language. The problem of what vocabulary is partly met by studies of word frequency. Some words, like *dollar*, have a high frequency and limited range, while other words, like *liable*, with less frequency, have a wider range. Thorndike's list is recommended, since it gives credit for range of occurrence.—*E. R. Hilgard* (Yale).

4439. *Wilson, K. M. The real rhythm of English poetry. Aberdeen: University Press, 1929. Pp. vi+171. 7/6.*—Rhythm is not predominantly perceptual in character, or affective. It is essentially an experience of movement. The prosody of poetry is properly collated with that of music. Objections to this view are considered and refuted, and copious illustrations of the collation proposed are considered. Special topics discussed include the foot, quantity, accent, syncopation. Particularities of rhythm are illustrated, and simple scansion from Wordsworth, Milton and Shakespeare illustrate the general method of scanning and are used to justify the method on the grounds of its closeness to the facts of poetic experience.—*F. C. Bartlett* (Cambridge, England).

4440. *Winkler, R. Der Erkenntniswert der religiösen Vorstellung. (The experimental value of the*

religious concept.) *Zsch. f. Theol. u. Kirche, 1929, 10, 389-399.—(Soc. Sci. Abst. II: 9759).*

4441. *Wolff, W. Plastizität und Kohäsion im Denken der Primitiven. (Plasticity and cohesion in primitive thought.) Zsch. f. Völkerpsychol. u. Soziol., 1930, 6, 193-208.*—The principal feature of primitive thinking is the tendency to treat all phenomena as portions of a concrete organic unity. The conception of chance, in the modern scientific sense, is consequently foreign to the savage, to whom all events hang together just as material particles cohere. A pregnant woman avoids eating the flesh of a cowardly animal for fear that that quality will transfer to her child. Knowledge of the name of a person or thing confers power over them because of the intrinsic association. Imitative magic is accounted for on this basis, since there are no barriers to the free conversion of psychic energies into physical changes and vice versa. This totality feeling seems to be present in primitive *Gestalt*-like perceptions of natural forces. The intellectual life of the savage is dominated wholly by a prelogical consciousness.—*G. W. Hartmann* (Pennsylvania State College).

[See also abstracts 4090, 4138, 4143, 4285, 4287, 4296, 4306, 4307, 4310, 4322, 4327, 4328, 4347, 4351, 4361, 4365, 4449, 4457, 4489, 4555, 4577.]

## INDUSTRIAL AND PERSONNEL PROBLEMS

4442. [Anon.] *Suggested tests for water meter readers. Amer. City, 1930, 42, 97-99.—(Soc. Sci. Abst. II: 8321).*

4443. *Benedek, L. A cselekvőképzetlenség kérdéséhez elmeorvosi szempontból. (The question of disability from the point of view of psychiatry.) Jogtudományi Közlöny, 1928, 63, 213-215.—(Soc. Sci. Abst. II: 4869).*

4444. *Berinsohn, H. W. Medizinische Beruopsanalyse. (Medical job analysis.) Jugend in Beroep, 1929, 2, 106-112.*—Medical advice sometimes takes the form of vocational guidance. Some people can do "hard" work but others must be encouraged to find "light" work. This necessitates an analysis of occupations with a special view to this distinction. The difficulty is, however, to determine *objectively* which occupations provide "light" and which "hard" labor. Several such objective methods which have been proposed are discussed.—*H. F. Verwoerd* (Stellenbosch).

4445. *Bur. Pub. Person. Admin. Staff. Information and data regarding tests in the short answer form. Pub. Person. Stud., 1930, 8, 79-80.*—(1) Junior clerk test. Distribution of scores of 174 testees seeking licenses as general clerical assistant with the New York City Board of Education. (2) Ability to use correct English. Ranges, mean and median scores for 1765 sophomore and junior students at Syracuse University. Means and medians noted as lower than those for previously tested university groups. (3) Patrolmen. 376 patrolman testees examined by the New Jersey State Civil Service Commission with Army Alpha and the patrolman aptitude tests. Reliability of patrolman tests found to be .94. Correlation with Army Alpha of .80 ± .01 indicates that the two tests "measure principally the same thing."—*K. M. Cowdery* (Stanford).

4446. *Chapin, C. K. Choosing personnel in the water business. J. Amer. Water Works Assn., 1930, 22, 82-89.—(Soc. Sci. Abst. II: 9408).*

4447. Chase, S. **Skilled work and no work.** *New Republic*, 1929, 58, 118-123.—However much the machine may split the psychological unit of work and thwart the craftsman's satisfaction in it, machine processes do call forth many new types of skill. Yet in the last year or two the machine has eliminated workers faster than new tasks can be found for them. The sensible mode of social procedure, Chase points out, would be a reduction in hours, and an increase in the output of necessities and comforts; and this would necessitate a readjustment of the whole financial structure, somewhat along the lines of the Foster and Catchings proposals.—(*Soc. Sci. Abst.* I: 7525).

4448. De Kanter, J. **De leerlingopleiding in de Rotterdamsche metaalindustrie.** V. (The training of apprentices in the Rotterdam metallurgical industry. V.) *Jeugd en Beroep*, 1929, 2, 113-114.—The theoretical training of apprentices in the metallurgical industries in Rotterdam is strictly insisted upon, but it was not found feasible to give this in the factories where they worked, and hence arrangements were made to have it given in certain technical evening schools.—H. F. Verwoerd (Stellenbosch).

4449. Eliasberg, W. **In welcher Weise nimmt die wirtschaftliche und soziale Leistungsfähigkeit ab?** (How do economic and social capacities decrease?) *Soz. Praxis*, 1930, 39, 156-159.—(*Soc. Sci. Abst.* II: 9340).

4450. Fairchild, M. **Skill and specialization. Part II. The significance of skill.** *Person. J.*, 1930, 9, 128-175.—Further analysis of data in the complicated schedule filled out for metal workers described in Part I. The skill index is based on therbligs of the Gilbreth type. The men were rated on home conditions, habits of work, attitude, skill, etc., before the therblig averages were computed. The skill index showed rather high correlation with production and in some plants with skill rating. There was a less marked relation between skill and habits of work or attitude, and no relation of skill to schooling or trade training. Satisfaction was estimated by determining the number of sources of satisfaction for a given man with reference to his job, his wage or his working conditions. Skill proved to be the leading source of satisfaction where it existed to a considerable degree. Wages and working conditions were quite secondary sources with this group. Short hours, for instance, cannot be an adequate substitute for interest in work. The less specialized plants studied had older, better educated, more experienced and more highly skilled personnel. The author urges promotion between plants in the same industry, submitting that this would be better than haphazard turnover. Skill is the integration of well-adjusted performances. Accuracy is all important. The nature of the movements is more important than the time involved. Appendix gives 21 tables.—H. E. Burr (Ohio State).

4451. Farmer, E. **A note on the relation of certain aspects of character to industrial proficiency.** *Brit. J. Psychol.*, 1930, 21, 46-49.—This paper describes a series of character assessment experiments done with groups of boy apprentices whose subsequent trade proficiencies it was desired to discover. The results found by character assessments were found to be better than those from the entrance examination, equal to those from the cube construction

test, and inferior to those from a group of objective tests suggested to the experimenters as a result of other similar investigations. The value of the experiment, it is claimed, lies in the fact that the character categories used were chosen as the result of the analysis of very full character assessments of over 600 subjects and were suggested by actual observation of the different methods employed, and were not the result of preconceived psychological ideas.—M. Drury Smith (Cambridge, England).

4452. Farmer, E. **Psychological study of accident proneness.** *Person. J.*, 1930, 9, 115-120.—Summarizes previous studies of Industrial Health Research Board. Accidents in munitions plants have lowest incidence at 67° F. There is a direct relation between accidents and temperature at the coal face in mines. This is true only of minor accidents, because the victims tend to report such ones only when working under conditions of extreme heat in order to be relieved. The frequency distribution curve of accidents is J-shaped. This may account for the failure to find high correlations with tests, for the latter have a normal frequency distribution. Accident proneness is relatively permanent and the majority of accidents are sustained by a few individuals. Later results on large samples confirm earlier findings that intelligence and certain sensori-motor tests may be weighted to give a fair correlation with accident record. The worst 25% in the tests had an accident record 2.5 as large as that of the other 75%.—H. E. Burr (Ohio State).

4453. Gibson, J. **Rationalisation in the building trade—when?** *J. Nat. Instit. Indus. Psychol.*, 1930, 5, 108-113.—The author of this article is a working man who has inside knowledge of the conditions described. He explains the present state of the building industry, and in particular the system of subcontracting. The inefficiency and duplication resulting from this system are stressed, and its danger to the health of the worker discussed.—M. Drury Smith (Cambridge, England).

4454. Gilbreth, L. **L'organisation scientifique du travail et l'élimination de la fatigue.** (Scientific management and the elimination of fatigue.) *Rev. écon. internat.*, 1929, 21, 344-350.—(*Soc. Sci. Abst.* I: 7508).

4455. Guilford, J. P. **Measuring human wants in business.** *Amer. Econ. Rev.*, 1929, 19, 412-418.—A suggestion is made that human wants in business be measured just as likes and dislikes are now being measured in psychology. The theory underlying the suggestion is based upon the so-called "law of discrimination." It is stated that the method is applicable in establishing the relative attractiveness to the buying public of different brands of cigarettes, coffee, tea, etc. It can be used to advantage in the fields of advertising and selling to measure the strength of the appeals of the various methods employed.—(*Soc. Sci. Abst.* II: 4409).

4456. Haskell, L. W. **The relation of time study to production.** *Soc. Automotive Engin. J.*, 1929, 24, 273-277.—(*Soc. Sci. Abst.* I: 7509).

4457. Hasselgren, K., & Kellogg, P. U. **Public opinion and industrial relations.** *Int. Indus. Relations Assn., Rep. 1st Trien. Cong.*, 1929, 118-135.—A consideration of the psychological barriers between

industrial groups and recommendations for overcoming them.—(*Soc. Sci. Abst.* II: 9624).

4458. Johns, W. B., & Worcester, D. A. The value of the photograph in the selection of teachers. *J. Appl. Psychol.*, 1930, 14, 54-62.—Judgments on sets of photographs of teachers by 148 persons (superintendents, secretaries of school boards and placement bureaus) show agreement when taken as a whole, but wide divergence between individual judges, which in no case provides an evaluation with any factual basis other than a general idea of the teacher's appearance.—G. L. Barclay (Syracuse).

4459. Jones, W. Individual differences in mental inertia. *J. Indus. Psychol.*, 1929, 4, 282-294.—(*Soc. Sci. Abst.* II: 9640).

4460. Martin, A. H. The psychological practice of vocational guidance. *Australasian J. Psychol. & Phil.*, 1930, 8, 135-149.—The purpose of this paper, as stated by its author, is directed to the application of mental tests to problems of livelihood and vocations involving the gaining of a livelihood. It opens with a brief history of the development of attempts to measure vocational ability. The second section outlines the method of working adopted at the Sydney Institute of Industrial Psychology. A third section discusses how the results of the tests and estimates may be utilized, illustrating its thesis by reference to three sample vocational profiles. The concluding section considers the nature of the qualities necessary for a successful vocational psychologist.—M. Drury Smith (Cambridge, England).

4461. Miller, W. L. A biological factor in the choice of an occupation. *Soc. Sci.*, 1929, 4, 420-428.—The author suggests the selection of individuals for occupations on the basis of their inherited characteristics. He suggests that an individual should have a large variety of experiences in the first 18 or 20 years of his life and should be observed as to his reactions to these experiences. He also recommends analysis of the talents and tastes of the individual's parents and grandparents to determine what vocational aptitudes he may have inherited.—(*Soc. Sci. Abst.* II: 4855).

4462. Myers, C. S. Contribution of psychology to industrial relationships. *Int. Indus. Relations Assn., Rep. First Triennial Cong.*, 1929, 99-108.—An appreciation of the variety and importance of individual differences in reacting to conditions of psychological experiment is essential to successful personnel administration.—(*Soc. Sci. Abst.* II: 4846).

4463. Pedersen, R. H. Psykotekniske prøver i erhvervslivet. (Psychotechnical tests for industrial occupations.) *Nordisk Tidsskr. f. Vetenskap, Konst o. Indus.*, 1929, 5, 481-496.—(*Soc. Sci. Abst.* II: 8056).

4464. Phillips, D. E. Class shopping experiment. *J. Appl. Psychol.*, 1930, 14, 42-53.—Making six trials in each case before final purchase, 120 students purchased various commodities and reported on the following points: form of greeting, neatness of salesman, promptness, courtesy and attention shown to customer, salesman's knowledge of goods and form of sales talk, and methods of evasion on the part of the customer.—G. L. Barclay (Syracuse).

4465. Polak, A. Meer psychisch dan technisch. II. (Psychological rather than technical.) *Jeugd en*

*Beroep*, 1929, 2, 104-105.—A number of personality traits are mentioned which are regarded as essential for nursemaids and various kinds of teachers, and it is contended that it will never be possible to detect them by means of psychotechnical tests.—H. F. Verwoerd (Stellenbosch).

4466. Raphael, W. S. Some personnel problems. *J. Nat. Instit. Indus. Psychol.*, 1930, 5, 114-116.—The writer discusses the functions of the staff office, also the questions of recruitment, promotion, resignation and dismissal.—M. Drury Smith (Cambridge, England).

4467. Schmidt-Lamberg, H. Frauenarbeit im Gewerbe. (Women in industry.) *Zsch. f. Sex.-wiss. u. Sex.-pol.*, 1928, 15, No. 6.—R. R. Willoughby (Clark).

4468. Sen, D. M. The man behind the machine, rest and efficiency. *Modern Rev.*, 1930, 47, 27-32.—(*Soc. Sci. Abst.* II: 8057).

4469. Slocombe, C. S., & Brakeman, E. E. Psychological tests and accident proneness. *Brit. J. Psychol.*, 1930, 21, 29-38.—This paper describes a series of practical tests given to measure the accident proneness of about 500 high-accident men employed in the actual operation of surface cars. The particular aim of the investigation was the reduction of collision accidents. The difficulties of diagnosing the causes of proneness to accident led to the designing and setting up of a series of psychological tests, mainly of reaction. These are described, and their reliability in terms of inter-correlation is discussed. No group factors were found present, but only *g* and *s*, the nature of *g* being unknown. The ordinary correlation coefficient showed no significant relationship between test results and accident record, but two other methods showed the value of the tests in diagnosis and the relationship of extremely poor test performance to proneness to accident.—M. Drury Smith (Cambridge, England).

4470. Tarnow, F. Das Berufsethos des Arbeitnehmers. (The employee's attitude toward his occupation.) *Nord u. Süd*, 1929, 52, 812-824.—The widespread discontent among workers today is symptomatic of a lack of satisfaction in work. The wage-earner can no longer realize himself in his occupation as a member of a living social organization. Our collective concern today is no longer with technical development but with the development of social organization and control. Social organization should be so reconstructed as to afford workers leisure and opportunity for the pursuit of the higher satisfactions of life.—(*Soc. Sci. Abst.* II: 4849).

4471. Van Det, E. J. Wat Amsterdam voor de jeugdige gemeentewerblieden gaat doen. II. (What Amsterdam is about to do for its juvenile employees.) *Jeugd en Beroep*, 1929, 2, 97-104.—The development of certain regulations for the protection of juvenile workers is briefly sketched, e.g., in connection with their education, general training and further placement when they reach a certain age limit. A comparison is given of the numbers of adult and juvenile employees in the different types of skilled and unskilled labor and the conclusion drawn from it by an investigatory committee that the city has a large number of juvenile workers who obtain no training in a trade and whose general education is neglected, and that this condition must be altered

in the interest of the service as well as of the workers.—*H. F. Verwoerd* (Stellenbosch).

4472. Vernon, H. M., Bedford, T., & Warner, C. G. Absenteeism in coal miners. *J. Indus. Hygiene*, 1929, 11, 97-105.—(*Soc. Sci. Abst. I*: 7521).

4473. Wallin, J. E. W. Shall we continue to train clinical psychologists for second-string jobs? *Psychol. Clin.*, 1930, 18, 242-245.—The author holds that something must be done about the present status of the qualified clinical psychologist. He presents two alternatives: (1) the departments of psychology should inform their students that there is little future for them without the medical degree and advise them to transfer to medical schools, or (2) they should see to it that the psychologist gets equal chances with the medical man of corresponding training. Several facts are cited which indicate that the latter alternative is quite possible.—*J. T. Metcalf* (Vermont).

4474. Wells, F. L. Comparative reliability in tests of a motor aptitude. *J. Genet. Psychol.*, 1930, 37, 318-321.—O'Connor's Worksample 17 test has been shown to possess some validity in selection of industrial operatives, and this study sought to improve its reliability and test technique by variations in procedure.—*J. F. Dashiell* (North Carolina).

4475. Weston, H. C., & Adams, S. Observations on the design of cotton machinery in relation to the operator. *J. Nat. Instit. Indus. Psychol.*, 1930, 5, 97-107.—This paper contains a description of the unnecessary movements and effort, and of uncomfortable posture and danger associated with machines in common use in the textile industry. Suggestions are made as to how these disadvantages should be reduced. The paper is illustrated by photographs.—*M. Drury Smith* (Cambridge, England).

4476. Wigmore, J. H. Juristic psychopoyemetry—or, how to find out whether a boy has the makings of a lawyer. *Illinois Law Rev.*, 1929, 24, 454-465.—(*Soc. Sci. Abst. II*: 7279).

4477. Würfler, P. Der psychische Faktor in der Internationalen Hygieneausstellung 1930 in Dresden. (Psychic factors in the 1930 International Hygiene exhibition in Dresden.) *Zentbl. f. Psychotherap.*, 1930, 3, 445-448.—Attention is called to three psychic factors which did not appear on the program: the mental hygiene of work, the prevention of accidents, and the hygiene of business women. The author notes that enjoyment of work does not depend on the number and length of rest periods, but on the attitude of the worker. 28% of industrial accidents are due to mistakes, oversight, worry and neurotic complexes. Worry about the children at home may be obviated by factory kindergartens. Only work which is done without worry is successful. Hygiene has put too much emphasis on physical care. The only true hygiene deals with the body-soul whole of man.—*M. A. M. Lee* (Chicago).

[See also abstracts 4379, 4409, 4507, 4540, 4545, 4558, 4573.]

#### CHILDHOOD AND ADOLESCENCE

4478. Adams, N. The dissenter. *Tr. School Bull.*, 1928, 25, No. 6.—*R. R. Willoughby* (Clark).

4479. Aichele, J. Probleme des Kindes. (Problems of the child.) Beuren O.-A. Nürtingen

(Wurttb.): Selbstverlag, 1930. Pp. 48. M. 1.20.—*R. R. Willoughby* (Clark).

4480. Bayne, T. L., Winsor, A. L., & Winters, E. S. Conditioned motor responses in children. *Proc. Soc. Exper. Biol. & Med.*, 1929, 26, No. 4.—*R. R. Willoughby* (Clark).

4481. Behm, K. Das Bettnässleiden, seine Behandlung und Bekämpfung. Auf Grund der Typenlehre und der Ganzheitsbildes. (Anthropognose.) (Enuresis; its management and therapy, on the basis of the doctrine of types and of the total picture. Anthropognosis.) Leipzig: Voss, 1930. Pp. 46. M. 2.00.—*W. S. Hunter* (Clark).

4482. Bcenheim, C. Kinderkrankheiten und ihre Beziehungen zur Heilpädagogik. (Children's diseases and their significance for curative pedagogy.) *Zsch. f. Schulgesundheitspflege u. soz. Hygiene*, 1930, 43, 89-97.—(*Soc. Sci. Abst. II*: 9647).

4483. Brainard, P. P. The mentality of a child compared with that of apes. *J. Genet. Psychol.*, 1930, 37, 268-293.—Descriptions are given of a child, less than 3 years old, in her solutions of various problems similar to those set by Köhler for his apes: detour, strings attached and unattached to object, building construction, sticks to be joined, etc. In general, quantitative results as well as qualitative analysis suggests that a 3-year-old child has approximately the same difficulties as did apes. The former has an advantage in speech, the latter in greater strength and motor experience; but both show the same types of general procedure—vigorous striving, confusion and emotional stresses, revived interest and variations in attack, finally a pause followed by rapid movements that bring success.—*J. F. Dashiell* (North Carolina).

4484. Braungard, M. Cultivating a wild rose. *Psychol. Clin.*, 1930, 18, 282-290.—The case of an attractive, pleasure-loving girl who reacted excessively to the very strict and rigid standards of her home. She was finally reclaimed by the combined efforts of the psychological clinic, an institution for delinquent girls, and her own family.—*J. T. Metcalf* (Vermont).

4485. Busemann, A. Geschwisterschaft, Schultüchtigkeit und Charakter. (Sibship, school conduct and character.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 1.—*R. R. Willoughby* (Clark).

4486. Butts, A. L. Triplets. *Psychol. Clin.*, 1930, 18, 266-273.—A study of three little girls, triplets, of Jewish parentage, who entered the first grade together. Their IQ's were respectively 103.8, 98.8, and 85.2. Personality traits resulted in even greater differences in ability than their IQ's would indicate. They were, accordingly, placed in three different ability groups in the first grade.—*J. T. Metcalf* (Vermont).

4487. Celestine, Sister M. A survey of the literature on the reading interests of children of the elementary grades. *Cath. Univ. Amer., Educ. Res. Bull.*, 1930, 6, Nos. 2 & 3. Pp. 114.—The problem stated in the introduction is to discover the elemental qualities which motivate and determine the child's reading interests. A brief history is given. The survey of methods is grouped under four headings: (1) questionnaire based on answers of children; (2) questioning adults about their reading at certain ages; (3) library method; (4) observation and ex-

perimentation, (a) adult list checked by pupils, (b) adult reactions or opinions of selected reading for children. Part II compares the defining of typical trends for various stages of development as determined by results of various studies. A summary of reading interests in theme and type, with sex differences, is presented. Fiction is the dominant interest of both sexes, with sex differences in theme. All other types vary greatly. Extrinsic factors are discussed under (1) the influence of physical make-up of a book, (2) methods of stimulating interest. Interest varies with age, sex and mental ability. Sex differences begin to manifest themselves about the age of nine. The boy's interest centers about the dramatic and spirit of adventure; girls' interests center about pleasant home and school life, with less of the adventurous element. Girls read more, but boys have a wider range of reading. No single boy story has the popularity that *Little Women* has with girls. "Children of superior mental ability read more than children of dull or average intelligence." Many of the studies have included diagnostic and remedial aim. The remedial phase is expressed largely in the co-operative work of librarians and teachers in devices for stimulating the interest of children in wholesome reading material. "Leisure reading is definitely included among educational objectives." Selected bibliography of 40 items.—*R. A. Brotemarkle* (Pennsylvania).

4488. Eipper, P. *Menschenkinder*. (Human children.) Berlin: D. Reimer, 1930. Pp. 68. M. 5.50.—*R. R. Willoughby* (Clark).

4489. Groves, E. R. *Adolescent strain and social pressure*. *Soc. Forces*, 1929, 7, 343-350.—(*Soc. Sci. Abst.* I: 7790).

4490. Haferkorn, W. *Die körperliche Erfassung des Kindes mit Hilfe von Indices*. (The physical measurement of the child with the help of indices.) *Päd.-psychol. Arbeit.*, 1929, 17, 205-251.—The customary indices used in the study of growth are critically compared. The main measurements are derived from 90 children and from these data the Bornhardt index, the "Gelidusi," Kaup's formula and the formula  $G^2/L^5$  are calculated. The results are compared with the inspection figures. Extensive bibliography.—*A. Busemann* (Breslau).

4491. Haslitt, V. *Children's thinking*. *Brit. J. Psychol.*, 1930, 20, 354-361.—This is an account of a series of experiments carried out with groups of children ranging from 3 to 7 years of age. The object of the experiments was to test the children's ability to make an exception and to generalize. With regard to the first problem, it was found that children could make a practical exception at an age considerably younger than that at which Piaget considered them capable of thinking verbal exceptions. The results from the second experiment seemed to show that, at all the ages tested, there was present in the mind of the child some basis for generalization; the youngest took the broadest basis, the oldest took the narrowest. The writer suggests that Piaget's picture of a striking difference between adult and childish thinking is due to "an over-valuation of verbal expression as a measure of thinking and an exaggerated view of the logicity of adult thought."—*M. Drury Smith* (Cambridge, England).

4492. Hicks, J. A. *The acquisition of motor skill in young children*. *Child Development*, 1930, 1, 90-105.—The fundamental problem is to what extent young children improve in complex motor skills as a result of specific practice and to what extent as a result of other factors such as structural maturation and general practice which has a direct bearing on the specific skill. The experiment here reported studied the effects of systematic well-motivated practice upon the ability of young children to hit a moving target with a ball. 60 children, between two and a half and six and a half years of age, made up the practice and control groups; the practice period lasted eight weeks. Some results: both groups made gains from initial to final tests, the practice group's gain being larger, but the difference in gains was not statistically significant; boys made larger average scores than girls in different age groups; younger children made lower average scores on the test, but larger gains from initial to final tests; both practice and control groups tended to correct their throws when they were too low, but not when too far to the left; practice did not affect the distance the children allowed the target to move before throwing; averages of scores on throws immediately preceding or following a throw which rang a bell (indicating bull's eye hit) were higher than average of scores for other throws in the series; correlation of initial scores and mental age, with chronological age partialled out, was  $.05 \pm .09$ . These results indicate that the improvement in skill did not result primarily from specific practice but from other factors such as structural maturation and general practice; and in the present tendency to emphasize the rôle of structural maturation in learning the experimenter reminds us not to overlook the importance of the relatively simpler skills (e.g., coordination of body, eye, arm, hand and leg movements) which are utilized in performing a complex skill.—*L. M. Hatfield* (Illinois Woman's College).

4493. Hincks, C. M. *Mental hygiene of childhood*. *Pub. Health J. (Toronto)*, 1930, 21, 26-29.—(*Soc. Sci. Abst.* II: 9830).

4494. Jones, H. E., & Jones, M. C. *Growth of mind*. *Calif. Mo.*, 1930 (April), 22-25.—This study presents some examples of the normal growth of traits as observed in several hundred infants under one year of age. It indicates that the rate of development of eye movements, blink reflexes, etc., may be used to provide an index of general intelligence. A study of emotional development is being made at the University of California, using a galvanometer, which measures minute electrical changes in the skin due to changing emotional states. Younger infants are found to be less sensitive than older. Mental growth involves wider emotional range.—*M. P. Montgomery* (Faribault, Minn.).

4495. Kaiser, O. *Zur Psychologie des jungen Mädchens auf dem Lande*. (The psychology of the young country girl.) *Neue dtsh. Schule*, 1930, 5, 345-366.—*A. Römer* (Leipzig).

4496. Katz, D. *Psychologische Probleme des Hungers und Appetits insbesondere beim Kinde*. (Psychological problems of hunger and appetite, especially in the child.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—*R. R. Willoughby* (Clark).

4497. Kiessling, A. Die Seele des Grossstadt-kindes. (The mind of the city child.) *Phil. u. Leben*, 1930, 5, 132-138.—A. Römer (Leipzig).

4498. Kuenzel, M. W. A selected bibliography on the superior child. *Tr. School Bull.*, 1928, 25, No. 6.—R. R. Willoughby (Clark).

4499. Mercante, V. Correlación inversa de las crisis físicas e intelectuales. (The inverse correlation between physical and intellectual crises.) *Rev. de ped.*, 1928, 7, No. 80.—R. R. Willoughby (Clark).

4500. Paquin, G. Die Vorlesungen und Übungen über Jugendwohlfahrt, Fürsorgen und Heilpädagogik. (Lectures and exercises on adolescent guidance, care and curative pedagogy.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 4.—R. R. Willoughby (Clark).

4501. Pratt, K. C., Nelson, A. K., & Sun, K. H. The behavior of the newborn infant. *Ohio State Univ. Stud., Contrib. Psychol.*, 1930, No. 10. Pp. ix + 237.—"The problem of these investigations is that of (a) determining the reactions at birth to certain stimuli, (b) following the ontogenetic development of these reactions, (c) noting the emergence of new reactions, within the time limits of about two weeks." The infants were placed in an experimental cabinet and their reactions were observed through windows. Movements were described qualitatively and were recorded quantitatively when there was sufficient gross activity by means of a stabilmeter—a device which consists of a board mounted on roller bearings and held in position by springs. Movements of the infant caused movement of the board, which was transmitted to writing pens. The reactions studied were to: light, sound, taste, smell, temperature, holding the nose, holding the arms, and the plantar and sucking reactions. Control periods were used before, about the middle of, and at the end of each experimental period. From this study the authors conclude that the infant is not a man in miniature, as one theory asserts; nor a reflex organism consisting of a number of "specific simple reflexes and a few more complicated but none the less specific reactions called primary emotions, instincts, etc.," as another theory holds; but in general that "the behavior of the infant is not at all precise and specific, but it consists in generalized behavior with the activity greatest in those bodily segments which are nearest to the region stimulated, and a decrease in the magnitude and frequency of the activity roughly corresponding to the distance from the zone stimulated (Bersot and Minkowski). An early variant of this is the doctrine 'from fundamental to accessory.' This doctrine has been variously stated, but if it is expressed in this form, that in the early stages the larger muscle groups are first coordinated and that there is a progressive increase in coordination with the finer smaller muscle adjustments, it best fits in with the theory stated above and also with the experimental results of our investigations." Previous experimental work is summarized and a bibliography is appended.—P. Huston (Worcester State Hospital).

4502. Rice, C. The orientation of plane figures as a factor in their perception by children. *Child Development*, 1930, 1, 111-143.—An attempt to determine the age limits of that period in the child's life when the position of a picture in no way affects his attitude toward it, as distinguished from the subse-

quent period in which the orientation, when normal, helps, and when abnormal, hinders the comprehension and appreciation of the material presented to vision. Three types of tests were used: two form perception tests (one of familiar, the other of unfamiliar figures), motor ability, and imitative drawing tests. Results: (1) orientation on the page, of plane figures, appears to rise rather suddenly as a factor in their perception between the ages of five and six years; (2) familiarity with figures seems to bear little or no relation to the reaction toward their orientation; (3) perceptual development appears to be more closely allied than motor development with the development in imitative drawing; (4) a very high correlation exists between scores on perception and scores on motor control.—L. M. Hatfield (Illinois Woman's College).

4503. Rockwell, A. J. A study of probable causal factors of masturbation in a girl of six years. *Psychol. Clin.*, 1930, 18, 236-241.—A case study of a child who was found to be getting all her emotional satisfaction in fantasy about the sex play she had seen and in masturbation. When more normal emotional outlets were provided the masturbation decreased.—J. T. Metcalf (Vermont).

4504. Rosenbund, L. Zur Entwicklung verwahrloster und gefährdeter Kinder unter dem Einfluss heilpädagogischer Heimerziehung und Beratung. (The development of demoralized and imperiled children under the influence of therapeutic methods of home education and counsel.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 3, 4.—R. R. Willoughby (Clark).

4505. Ruelius, A. Arbeitsversuch an Hilfschülern. (Work experiments on children in special classes.) Langensalza: Beltz, 1929. Pp. 46. M. 1.80.—The change in efficiency brought about by practice was studied with retarded children (children in special classes) by means of two simple psychological tasks which in themselves are complete work units, and this change in efficiency was compared with that caused by practice in normally developed (public school) children. The first piece of work considered involved the stereotyped repetition of the making of the same object, consisting of folding a sheet of paper into a drinking cup. In the second task, two-dimensional wire designs had to be bent into all sorts of different figures differing from each other in shape or size, to correspond to drawn patterns. The first experiment, that of the drinking cup, was carried out on 32 subjects, and the wire-bending test on 16 subjects. The subjects were public school and special class children of the two highest grades. The period of experimentation extended over 10 successive days for each subject, the working period being 25 minutes each day. The two experiments were analyzed in various ways,—for the amount of work done, the distribution of the amounts, the relations between initial achievement and capacity for profiting by practice, and the quality of achievement. Among the results which are summarized in the concluding section may be mentioned that the special class children, in the drinking cup experiment, showed themselves less capable at first, but profited just as much from practice as did the public school children. In the wire-bending experiment the initial capacity of the special-class children was, on the average, somewhat higher than that of

the public-school children. A distinct benefit from practice, however, was present only in the public-school children and lacking in the special-class children.—A. Ruelius (Zinten i. Ostpreussen).

4506. Schierack, G. *Über die Befähigung jugendlicher Zeugen zur Personenbeschreibung.* (The capacity of youthful witnesses to describe persons.) *Päd.-psychol. Arbeit.*, 1929, 17, 7-204.—The reports of 1208 children on the appearance of a person who was for some minutes in the class-room are statistically evaluated, largely from the point of view of criminology. Part of a study hour and a rest period intervened between seeing the individual and making the report. The children were required in the first place to make a free written report and then to answer a questionnaire of 48 questions. The achievements of the children in making correct reports are given on the basis of "intelligence levels." The average achievements of girls of 6-7 years were better than those of the boys. From then on the sexes were equal. The correct reports increased with age from an average of 43% of correct statements regarding the figure, for instance, to 63%. The "more gifted" children gave on an average more correct reports. The boys were linguistically more independent than the girls and gave more definite statements and spontaneous verifications, and showed greater powers of objective observation.—A. Busemann (Breslau).

4507. Schorn, M. *Lebensalter und Leistung.* (Age and performance.) *Arch. f. d. ges. Psychol.*, 1930, 75, 168-184.—The first part of this article contains a discussion of the literature on the relation of age to the decline of industrial performance. The second part presents a statistical investigation of the fact that older children in public schools make better grades than the younger ones in the same classes. The results conform with those of earlier investigations of the same type and tend to explain the contradictory results of similar investigations in secondary schools as due to the higher intelligence level of secondary school pupils and their lack of homogeneous preparation.—K. F. Muenzinger (Colorado).

4508. Speich, R. *Der vorwöhnte "Einzig" kann schwer erziehbar werden infolge des Versagens seines sozialen Anpassungsvermögens.* (The confirmed only child may become an educational problem in consequence of the denial of his social adaptability.) *Psychol. Rundschau*, 1929, 1, No. 8.—R. R. Willoughby (Clark).

4509. Speich, R. *Verwahrloste Kinder.* (Demoralized children.) *Psychol. Rundschau*, 1929, 1, No. 8.—R. R. Willoughby (Clark).

4510. Stern, E. *Beitrag zur Psychologie des Stiefkinds.* (Contribution to the psychology of the step-child.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—R. R. Willoughby (Clark).

4511. Tinker, M. A., & Goodenough, F. L. *A comparative study of finger tapping in children and adults.* *Child Development*, 1930, 1, 152-159.—Finger tapping on a comptometer with arm restrained reveals that in both child and adult groups the index and middle finger scores are approximately the same, the middle tapping only a little faster than the index. The little finger taps at a much slower rate than the other fingers; left hand tapping is slower than right; and bimanual tapping is slower than uni-

manual. Performance of the child's middle finger is nearest adult maturity, index finger next and little finger last. Although some fingers are more closely related to each other in speed of tapping than others, this relationship does not change greatly with age. Tapping by any finger tends to correlate well with tapping by the same finger of the other hand or tapping by the same finger in another method. Tapping scores of the index and middle fingers tend to correlate more highly with each other than the scores of either of these fingers with the scores of the little finger. There is a small degree of correspondence between scores for finger tapping with arm and hand restrained and scores with arm and hand unrestrained in the case of children (previous investigation by same authors).—L. M. Hatfield (Illinois Woman's College).

4512. Tumlriz, O. *Die Psychologie der proletarischen Jugend.* (The psychology of proletarian youth.) *Dtsch. Blät. f. ers. Unterricht*, 1930, 22, 169-171.—A. Römer (Leipzig).

4513. Van Alstyne, D. *The environment of three-year-old children.* *Teach. Coll. Contrib. Educ.*, 1929, No. 366. Pp. vii + 108.—R. R. Willoughby (Clark).

4514. Von Baeyer, W. *Zur Psychologie verkrüppelter Kinder und Jugendlicher.* (The psychology of crippled children and adolescents.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 3.—R. R. Willoughby (Clark).

4515. Von Heydebrand, C. *Das kleine Kind. Pflege und Behandlung der ersten Kindheitsalters als Keime den späteren Lebens- und Schicksalsgestaltung des Menschen.* (The little child. Care and management of the first years as the basis of the later life and destiny formation of the adult.) Stuttgart: Waldorfschul-Spielzug, 1930. Pp. 72. M. 2.50.—W. S. Hunter (Clark).

4516. Wheeler, L. R. *A study of the mental growth of dull children.* *J. Educ. Psychol.*, 1930, 21, 367-378.—After a discussion of the literature of the problem, data chosen from the Harvard Growth Study are presented. It is found that the gain in mental growth of the six-year group shows the same trend as that of the seven-year group for four consecutive years. The combined groups show a decreasing increment from age six to age eleven. The average dull child is about one year retarded when he enters school, and this retardation increases from year to year until at the age of ten to eleven it amounts to over two years. No marked sex differences in mental growth appear.—J. A. McGeoch (Arkansas).

4517. Woelfel, F. *An adaptation of the Ishihara color test for use with children of pre-school age.* *Child Development*, 1930, 1, 144-151.—A matching test in multiple choice form, the child being required to pick from a series of four cards in each group, the numbers matching those on the Ishihara plates. Some results from a group of 39 children ranging in age from three years, one month to five years, eight months: (1) a closer relation between C. A. and total score on the color test, than that between M. A. and test score; (2) only one child under three years, six months C. A. and no child under three years, eleven months M. A. could do the test; (3) no child's record corresponded to the types of "color blindness"

as defined by Ishihara; (4) about twice as much time was taken to match each colored number as to match the same number in black (used in preliminary series); the median deviations were about twice as great for matching colored cards as for matching black and white cards.—*L. M. Hatfield* (Illinois Woman's College).

[See also abstracts 4198, 4205, 4207, 4214, 4218, 4253, 4268, 4362, 4387, 4399, 4413, 4422, 4526, 4544, 4549, 4576.]

#### EDUCATIONAL PSYCHOLOGY

4518. Adams, J. *The teacher's many parts*. London: Univ. London Press, 1930. Pp. 362. 6/.—The teacher is considered as a man who plays many parts. Twenty of these parts here form the subjects of a number of short and witty essays. These concern the teacher's relations to (1) the outer world, (2) the school, and (3) his own inner life. Examples of the topics dealt with are: the teacher as man-maker, as testimonialist, as citizen, as artist, as humorist, as examiner, as scholar, as traveller, as emeritus.—*F. C. Bartlett* (Cambridge, England).

4519. [Anon.] *The functions and organization of educational and vocational guidance in the junior high school*. *Voc. Guid. Mag.*, 1929, 8, No. 3.—*R. R. Willoughby* (Clark).

4520. Ballesteros, A. *Sobre educacion sexual*. (Sexual education.) *Rev. de ped.*, 1928, 7, No. 84.—*R. R. Willoughby* (Clark).

4521. Bäumer, G. *Sinn und Formen geistiger Führung*. (Content and forms of mental guidance.) Berlin: Herbit, 1930. Pp. 159. M. 4.00.—*R. R. Willoughby* (Clark).

4522. Bellamy, R. *Grades given at the Florida State College for Women*. *School & Soc.*, 1930, 32, 102-103.—The grades given students in 1922-1923 by each of the 53 teachers at Florida State College for Women were correlated with the average grades received by these students in their other courses. The correlation in the case of one teacher of education was highest—+.86—and for one teacher of physical education, lowest—+.21. The author concludes that members of the faculty agree very well in their estimates of the relative scholarship of students.—*H. L. Koch* (Texas).

4523. Bloor, C. *The process of learning; some psychological aspects of learning and discipline in school*. London: Kegan Paul, 1930. Pp. viii + 279. 7/6.—This book is addressed to training college students. It contains: (1) a general introduction, (2) a study of the learning process chiefly as this has been illustrated in school studies, and (3) a study of the development of character and of problems of discipline. Its aim is to give a general account of work relevant to questions of school training and method which has been done by other investigators, without very much preoccupation with the smaller details.—*F. C. Bartlett* (Cambridge, England).

4524. Brewer, J. M. *Correlations among certain measures of student ability*. *J. Educ. Psychol.*, 1930, 21, 319-326.—On the basis of relationships, computed from data furnished by four classes in the Graduate School of Education of Harvard University, between required papers and final examination,

case reports and final score, and other similar records, it is concluded that the final examination should not be used as the sole measure of student ability.—*J. A. McGeoch* (Arkansas).

4525. Cornell, E. L. *Principles underlying special class organization in New York State*. *Tr. School Bull.*, 1928, 25, No. 6.—*R. R. Willoughby* (Clark).

4526. Crampton, C. W. *Physiological age and the school*. *J. Genet. Psychol.*, 1930, 37, 328-330.—The writer's original recommendations made in 1903 as to the use of physiological age in determining location of children in school are here reaffirmed on the basis of more prolonged experience.—*J. F. Dashiell* (North Carolina).

4527. Cressman, L. S. *Maladjustments between high schools and college due to difference in aims and methods and suggested corrections*. *J. Educ. Sociol.*, 1930, 3, 389-401.—(*Soc. Sci. Abst.* II: 9721).

4528. Dawson, S. *Psychological tests in relation to education and vocational guidance*. *Brit. J. Psychol.*, 1930, 21, 39-45.—The paper opens by deploring the neglect of the practical application of psychological tests in Great Britain, and by explaining the reason for this neglect. The writer then distinguishes between ability and capacity and outlines the best methods of estimating the latter. The principles underlying psychological tests constructed for this purpose are explained and their practical value emphasized.—*M. Drury Smith* (Cambridge, England).

4529. Doll, E. A. *School training of exceptional children in rural districts*. *Tr. School Bull.*, 1929, 25, 49-57.—*R. R. Willoughby* (Clark).

4530. Einstein, F. *Schularzt und sexuelle Aufklärung*. (The school physician and sex education.) *Zsch. f. Schulgesundheitspflege u. soz. Hygiene*, 1929, 42, 657-660.—(*Soc. Sci. Abst.* II: 8721).

4531. Eversull, F. L. *Program of guidance for the East St. Louis, Illinois, Senior High School*. *Voc. Guid. Mag.*, 1929, 8, No. 3.—*R. R. Willoughby* (Clark).

4532. Eyferth, H. *Aus unseren Erziehungsakten*. (Concerning our educational activities.) *Blät. f. Heilerz.*, 1930, 8, 1-45.—At Trüper's *Erziehungsheim* attention is given to the needs of the individual child. The practical result is sought rather than the accumulation of data for theoretical purposes. A psychological and physiological study is made of the child and the plans made for the child are carried out exactly. Each child's progress is noted by his teachers and a report of such progress is sent to the parents at intervals. It is customary to send out reports regularly three times a year. The first and second reports are of special significance. The first is sent after a 4 to 6 weeks' stay and gives an account of the first impressions, experiences and type of training planned. The final report gives the entire development of the child during his stay at the home and serves as a basis for later judgments and treatment. In addition to the above reports the findings of the psychological tests are interpreted for the parents and further plans for the child's training are sent to them. The greater part of the article is devoted to samples of the various types of reports sent the parents.—*H. S. Clapp* (N. Y. C. Children's Court).

4533. Foran, T. G., & Rock, R. T., Jr. An annotated bibliography of studies relating to spelling. Suppl. No. 1. *Cath. Univ. Amer., Educ. Res. Bull.*, 1930, 5, No. 1. Pp. 24.—111 briefly annotated studies in spelling, endeavoring to list all investigations reported during 1928 and 1929. Several studies omitted in former studies are added. "Numerous articles of no importance have been included." In future supplements only those articles based on experimental evidence will be included. Brief analysis of problems emphasized in studies during 1928 and 1929 shows broad scope of approach.—R. A. Brotemarkle (Pennsylvania).
4534. Fürstenheim, W. Zehn Jahre Heilerziehung. (Ten years of therapeutic education.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 1.—R. R. Willoughby (Clark).
4535. Garcia, E. La pedagogia protectora en Espana. (Protective pedagogy in Spain.) *Rev. de ped.*, 1928, 7, No. 81.—R. R. Willoughby (Clark).
4536. Gregor, A. Zur Pädagogik des Erziehungsheims Schloss Flehingen 1927. (The pedagogy of the training home Schloss Flehingen in 1927.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—R. R. Willoughby (Clark).
4537. Hanselmann, H. Über heilpädagogische Ausbildung. (Therapeutic education practice.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—R. R. Willoughby (Clark).
4538. Henmon, V. A. C. Educational psychology. *Psychol. Bull.*, 1930, 27, 417-430.—A bibliography of 190 titles appearing within the past year is reviewed under the headings: general treatises, psychology of learning, psychology of school subjects, pre-school child, etc. Works bearing on intelligence, educational, and personality tests, and statistical methods are not included.—J. F. Dashiell (North Carolina).
4539. Hewlett, A. D. Beyond the Dalton plan. *Forum Educ.*, 1930, 8, 108-119.—Finding the Dalton plan of school organization and teaching inadequate, the writer proposes a modification called "prospectant education," involving maximum responsibility of the high school student for his own work program and development with the help rather than the supervision or control of teachers. University matriculation provides the objectives. The method is supposed to satisfy acquired interests and is comparable to the "progressive education" methods in the United States.—K. M. Cowdery (Stanford).
4540. Hovde, H. T. The relative effects of size of type, leading and context. *J. Appl. Psychol.*, 1930, 14, 63-73.—Part II, concluding the report of an experiment with 300 adult subjects on legibility. (For Part I, vide *J. Appl. Psychol.*, 1929, 13, 600-629.) Preferences of the subjects seldom agreed with their best reading rates. Opinions of readers regarding legibility place interest in the context in a much less important position than it actually occupies. Two conclusions are: "(a) Context is a more important factor in determining legibility than the sensory content of the type setting when the reading rate is used as a criterion; (b) the sensory content is the basis of the readers' preferences and opinions of legibility." "The results of this experiment do not warrant specific recommendations for the use of a particular type size or leading for newspaper columns within the limits of the type size and leading that have been tested." Bibliography of 46 titles.—G. L. Barclay (Syracuse).
4541. Jones, V., & Crook, M. Educational tests. *Psychol. Bull.*, 1930, 27, 458-484.—A bibliography of 162 titles is reviewed under the headings: general, tests for survey purposes, intensive study of techniques, marking systems, pupil classification, diagnostic and remedial teaching, prognosis and guidance.—J. F. Dashiell (North Carolina).
4542. Kefauver, G. N. Visual aids in imparting occupational information. *Voc. Guid. Mag.*, 1929, 8, No. 3.—R. R. Willoughby (Clark).
4543. Kiessling, K. Jahresbericht des Instituts des Leipziger Lehrervereins für 1927-1928. (Annual report of the Institute of the Leipzig Teachers' Association for 1927-1928.) *Päd.-psychol. Arbeit.*, 1929, 17, 290-296.—A. Busemann (Breslau).
4544. Kleist, F. Jugendstrafvollzug und Heilpädagogik. (Punishment in adolescence and therapeutic education.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 2.—R. R. Willoughby (Clark).
4545. Lindworsky, —. Psychologisches zur werktätigen Erziehung. (Psychological data on industrial education.) *Werktätige Erziehung*, 1930 (Jahrbuch), 31-44.—A. Römer (Leipzig).
4546. McCradie, A., & Ferguson, B. A counselor and a visiting teacher describe their jobs. *Voc. Guid. Mag.*, 1929, 8, No. 3.—R. R. Willoughby (Clark).
4547. McNally, L. L. Two cases of retardation due to educational deprivation. *Psychol. Clin.*, 1930, 13, 274-281.—Case studies of two boys who proceeded from extreme backwardness to normality in their school work when the deficiencies of their early training had been compensated for.—J. T. Metcalf (Vermont).
4548. Michaelis, E. Fragen der Seelenführung. (Questions in guiding the mind.) *Werd. Zeitalter*, 1930, 6, 291-295.—A. Römer (Leipzig).
4549. Miller, J. C., & Pelletier, A. Education of abnormal children. *Canadian Med. Asso. J.*, 1930 (April).—R. R. Willoughby (Clark).
4550. Monroe, M. Suggestions for remedial instruction in reading. Chicago: Instit. for Juvenile Research, 1930. Pp. 11.—Many children whose intelligence is good have difficulties in reading. 9 sources of errors are suggested and remedial treatment for all of them proposed. They are: (1) alteration in the sound of consonants; (2) alteration in vowel sounds; (3) reversal of certain letters; (4) addition of sounds to words; (5) omission of parts of words; (6) substitution of word having different sound but related in sense; (7) insertion of superfluous words; (8) skipping of words; (9) going back over words just read and repeating them. Remedial training requires a great deal of time, but can be efficacious. The reading work must be made interesting and not be permitted to suggest punishment. Since each child presents a problem different from any other, the method used in a specific case must be selected with care and judgment. Diagnostic tests are valuable as indicators of the peculiarities. The words used for drill should be taken as far as possible from the child's actual errors. Oral rather than silent reading is essential, at least in the first stages

of treatment. Accuracy rather than speed should be stressed. The choice of reading material is extremely important, for it should appeal to the child's particular interests.—L. A. Averill (Worcester State Normal School).

4551. Pfister, O., & Hanselmann, H. *Schule und Körperstrafe. Votum eines Psychoanalytikers und eines Jugendpsychologen.* (School and corporal punishment. Opinion of a psychoanalyst and a child psychologist.) *Schweiz. Erziehungs-Rundschau*, 1929-30, 12, 271-277.—A. Römer (Leipzig).

4552. Phillips, W. The subconsciousness and the acquirement of a second language. Conditions of most effective work. Part I. *Forum Educ.*, 1930, 8, 135-142.—Maintains that in teaching a new language the teacher should select, organize and classify linguistic materials with the specific purpose of facilitating the work done by the subconscious in absorbing and retaining. The learning of Welsh with its evolved mutational system is taken as an example. An outline of the problems of learning Welsh is given.—K. M. Cowdery (Stanford).

4553. Ritchie, F. M. An enquiry as to the reasons for the choice of occupations among secondary school pupils. Part II. *Forum Educ.*, 1930, 8, 81-90.—Favorite subject in school is indicated by 24% of girls (as compared with 32% of boys) as the main reason for choice of occupation. Many choices appear as the results of enthusiasms and ambitions of adolescence. Main conclusions are that four-fifths of senior girls (to be compared with one-half in case of boys) choose occupations for wrong or inadequate reasons which could have been corrected by a well-informed advisor. Ease of getting a job is less influential than with boys. The wish of the mother or father is more frequent in influence than that of teachers.—K. M. Cowdery (Stanford).

4554. Sidler, M., & Moss, W. *Die Beobachtungs-kasse in Zürich, eine heilpädagogische Einrichtung.* (The observation class in Zürich; a therapeutic education arrangement.) *Zsch. f. Kinderforsch.*, 1928, 34, No. 1.—R. R. Willoughby (Clark).

4555. Smith, W. R. The improvement of institutional processes as an end of education. *J. Educ. Sociol.*, 1929, 3, 218-227.—The function of the school is as definitely to bring about changes in social processes as to bring about changes in personal abilities and ideals. This challenges the supremacy of an individualistic psychology in education. The media of intercommunication in the group (inter-individual stimulus-response mechanisms) deserve as keen study as the neurones and stimulus-response mechanisms of the individual have received from the psychologists.—(*Soc. Sci. Abst.* II: 9733).

4556. Stedman, M. B. Factors influencing school success in bookkeeping. *J. Appl. Psychol.*, 1930, 14, 74-82.—Tests and examinations of tenth-grade students in bookkeeping courses revealed that impaired health and low IQ are serious handicaps to success in the study of bookkeeping.—G. L. Barclay (Syracuse).

4557. Stoltz, H. R. The secondary school and education for parenthood. *Calif. Quar. Secondary Educ.*, 1930 (April).—More than 50% of pupils in secondary schools will become parents within ten years. Training for this responsibility should include the ac-

quisition of certain attitudes, skills and information. The secondary school may do its share by (1) training boys as well as girls in home-making; (2) training girls in child care; (3) training both boys and girls in intelligent interpretation of human behavior; (4) study of human biology; (5) development of wholesome attitudes toward parenthood as one of the major goals of life.—M. P. Montgomery (Faribault, Minn.).

4558. Van Det, E. J. *Toelating van leerlingen tot de nyverheidsscholen. I.* (Admission of pupils to the trade schools.) *Jeugd en Beroep*, 1929, 2, 114-123.—At first an admission examination in ordinary school subjects was given, but proved unsatisfactory since many incapable pupils gained admission. The author proposes to seek some other method of testing candidates by investigating customs elsewhere and gives a detailed description of the admission tests (of a psychotechnical nature) for applicants for apprenticeship given by the ship-building firm of Blohm and Voss, Hamburg.—H. F. Verwoerd (Stellenbosch).

4559. Van Det, E. J. *Haar hartewensch onmogelyk te vervullen.* (Impossible to fulfil the desire of her heart.) *Jeugd en Beroep*, 1929, 2, 123-126.—The case is described of a near-sighted 14-year-old girl who wished to take up embroidery as a profession and would not accept advice to the contrary until she had proved a failure.—H. F. Verwoerd (Stellenbosch).

4560. Wallin, J. E. W. Differences in chronological age, mental capacity, and sex ratios of children referred from many school systems as candidates for special classes. *J. Appl. Psychol.*, 1930, 14, 1-31. Analysis of data on 4663 children from schools in St. Louis and 75 districts in various parts of Ohio showed: (1) a noticeable tendency to defer examinations in the lower grades; (2) the percentage of both younger and older examinees is larger among the girls than among the boys; (3) twice as many boys as girls were referred; (4) about three-fourths fall within the limits of our high-grade mental deficient and the merely dull or backward child.—G. L. Barclay (Syracuse).

4561. Weeks, H. F., Pickens, H. D., & Roubesh, R. I. A comparative study of recent texts in psychology, educational psychology, and principles of teaching. *J. Educ. Psychol.*, 1930, 21, 327-340.—The writers have examined nine current texts to determine the relative amounts of space devoted by each to the 15 points listed in Watson's study (*J. Educ. Psychol.*, 1926). The texts examined are those of the following: psychology, Dashiell, Hollingworth, and Perrin-Klein; educational psychology, Cameron, Jordan, and Sandiford; principles of secondary teaching, Monroe, Morrison, and Stormzand. It was found that there is an overlapping of more than 50% in the selection of topics, and that there is great variation in the proportion of space given to common topics. Educational psychology overlaps the other fields more than they overlap each other and is less specialized than either. The psychologies devote 99% of their space to non-school material, the educational psychologies vary from 43 to 87%, and the principles of teaching give no non-school material. The new psychologies give more space to

theoretical topics and have less practical emphasis than the older ones.—J. A. McGeech (Arkansas).

4562. Wells, F. L. A short-answer examination in psychiatry. *J. Genet. Psychol.*, 1930, 37, 309-314.—Sample questions and some analytic data are furnished.—J. F. Dashiell (North Carolina).

4563. Winch, W. H. Dates versus centuries in teaching chronology to school children. Part II. *Forum Educ.*, 1930, 8, 120-129.—In a second experiment with two paired groups of secondary school girls of Standard VII those taught history with dates learned these but failed to classify events by centuries; similarly those taught century-location of events retained such facts but did not acquire date information. Each group learned equally well general historical knowledge not involving chronological elements. Summarized conclusions from the entire study are that a much greater aggregate of chronological knowledge is obtained by teaching dates rather than centuries, that dates are as readily learned as centuries, and that this result is not due to a greater absorption of mental energy, since one group is as proficient as the other in general historical knowledge.—K. M. Cowdery (Stanford).

[See also abstracts 4144, 4253, 4300, 4326, 4339, 4350, 4353, 4409, 4436, 4461, 4471, 4482, 4484, 4486, 4487, 4505, 4507, 4575, 4581.]

# BIOMETRY AND STATISTICS

4564. Cureton, E. E., & Dunlap, J. W. Note on the testing of departure from normality. *J. Appl. Psychol.*, 1930, 14, 91-94.—Presenting a form for the systematic computation of measures of asymmetry and kurtosis (peakedness) of distributions from the third and fourth moments about the mean.—G. L. Barclay (Syracuse).

4565. Dunlap, J. W., & Cureton, E. E. The correlation corrected for attenuation in one variable and its standard error. *Amer. J. Psychol.*, 1930, 42, 405-407.—A formula for the correction for attenuation of the criterion used in determining the validity of the test:

$$r_{\infty 2} = \frac{r_{2(1+2)}}{\sqrt{1 + r_{12}}}$$

$$\sigma_{r_{\infty 2}} = \frac{r_{\infty 2}}{\sqrt{2n}} \left[ \frac{2(1 - r^2)^2}{r^2} + \frac{(1 - r_{12})^2}{2r_{12}^2} - \frac{(1 - r^2)(1 - r_{12})}{r_{12}} \right]^{\frac{1}{2}}$$

—D. E. Johannsen (Rochester).

4566. Fisher, R. A. The general sampling distribution of the multiple correlation coefficient. *Proc. Roy. Soc.*, 1928, A121, 654-673.—(*Soc. Sci. Abst.* I: 2480).

4567. Frisch, R. Correlation and scatter in statistical variables. *Nordisk Stat. Tidsskr.*, 1929, 8, 36-103.—(*Soc. Sci. Abst.* II: 8736).

4568. Kern, B., & Lindow, M. Die mathematische Auswertung empirisch gefundener Kurven mit besonderer Berücksichtigung der Übungskurven. (The mathematical evaluation of empirically discovered curves with particular reference to practice curves.) *Zsch. f. angew. Psychol.*, 1930, 35, 497-529.—The authors present a graphical method for

determining the curve of best fit for empirical data. This method may be described as follows: The new data are plotted. On the basis of the plot, a guess is made as to the probable form of the equation indicated. This equation is then plotted. From an arbitrary point, S, on the empirical curve a perpendicular is dropped to a point, Q, on the abscissa. The perpendicular cuts the mathematical curve at a point R. The distance QR is laid off on the X-axis and a second perpendicular erected. Then a line through S, parallel to the abscissa, cuts this second parallel at a point P. In like manner a series of points P, P<sub>1</sub>, P<sub>2</sub>, etc., are determined. If these last points lie on a straight line it indicates the validity of the assumption as to the probable form of the equation. The values for the constants of the equation are determined by the Y-intercept of the straight line and its slope. The authors then apply this method to data drawn from experiments on addition, dotting, and cancellation and find that a logarithmic curve fits the data very satisfactorily. On the basis of their work they present the following *Übungsgesetz*: If, in a practice series, the average values for each period are determined and plotted, the practice curves rise in the manner of a logarithmic function. This principle is given the name *Anstiegsgesetz der Übung* by the authors.—R. H. Waters (Arkansas).

4569. King, W. I., & Lawrence, L. The relationship in a frequency polygon of the average of any class to the mid-point of the corresponding class interval. *J. Amer. Statist. Assoc.*, 1928, 23, 435-439.—(*Soc. Sci. Abst.* I: 2479).

4570. Romanowsky, V. On the moments of means of functions of one and more random variables. *Metron*, 1929, 8, 251-280.—(*Soc. Sci. Abst.* II: 7249).

4571. Spearman, C., & Holzinger, K. The average value for the probable error of tetrad differences. *Brit. J. Psychol.*, 1930, 20, 368-370.—This paper furnishes the proof of the new approximate formula given in the appendix of Spearman's book *Abilities of Man* (1927).—M. Drury Smith (Cambridge, England).

# MENTAL TESTS

4572. Adams, G. Measuring the American mind. *Mercury*, 1929, 17, 194-198.—A brief historical and critical account of mental testing in the United States.—J. T. Metcalf (Vermont).

4573. [Anon.] Edison wants to know. *Voc. Guid. Mag.*, 1929, 8, No. 3.—R. R. Willoughby (Clark).

4574. Arnstein, E., Hertzner, G., & Kiessling, K. Neue Versuche mit dem Perleintest. (New bead test experiments.) *Päd.-psychol. Arbeit.*, 1929, 17, 252-271.—The author reports better achievements with increasing age. The girls are somewhat superior to the boys. There is positive correlation between bead test achievement and achievement in handicraft, and with intelligence rating. Mentally inferior children show very poor results. Hertzner reports no clear correlation between bead test achievement and intelligence. She compares the achievements of the right and left hands. Kiessling reports a marked increase in bead test achievement in the course of auxiliary-school attendance.—A. Busemann (Breslau).

4575. Broom, M. E. Sex differences in mental ability among junior high school pupils. *J. Appl.*

*Psychol.*, 1930, 14, 83-90.—Terman group test of mental ability used with 600 boys and 600 girls in junior high school. "... The Terman Group Test of Mental Ability secures reactions from boys and girls which are comparable in that the parts of the test and the total test measure very much the same things in the same amounts both with boys and with girls. This further supports the hypothesis previously advanced that boys and girls differ very slightly, if at all, in ability to do school work (mental ability)."—G. L. Barclay (Syracuse).

4576. Brown, A. W. The change in intelligence quotients in behavior problem children. *J. Educ. Psychol.*, 1930, 21, 341-350.—The Stanford-Binet ratings of 707 children who had been given two or more examinations at the Institute for Juvenile Research have been studied. The average amount of change from one examination to another is small and is little greater than for normal children, although large variations occur in individual cases. Length of interval up to four years does not significantly affect the amount of change. Less change appears in the scores of the feeble-minded than in those of children of average intelligence who present behavior problems. No sex differences appear. The case records of subjects showing changes larger than 12 points are studied and the significant accompanying factors are listed.—J. A. McGeoch (Arkansas).

4577. Bur. Pub. Person. Admin. Staff. Partially standardized test of social intelligence. *Pub. Person. Stud.*, 1930, 8, 73-79.—Defines social intelligence as the ability to adjust to new situations involving relations with other people and to adopt a course of action which is effective in the sense that it leads others to do consistently and voluntarily the thing it is desired they should do. A forty-minute test organized to measure this ability includes 150 items in short answer form dealing with factual information on types of people and behavior, with the making of comparisons to arrive at conclusions, and with indicating the more desirable course of action in given social situations. (Sample items are given.) Tried out with 36 individuals selected as well known to be of high, medium and low social intelligence, the items were evaluated as to discriminatory power. As reported, the test will "probably have high reliability" with validity "not to exceed .80 and may be as low as .60 or .50."—K. M. Cowdery (Stanford).

4578. Hutt, M. L. A simplified scoring method for the Kohs Block-Design Tests. *Amer. J. Psychol.*, 1930, 42, 450-452.—The author reports a revised technique for scoring the Kohs Block-Design Tests which eliminates counting the moves made to complete the performance. The new method correlates  $+.93 \pm .01$  with the old, and raises the correlation between the Kohs M.A. and the Stanford-Binet M.A. from  $+.43 \pm .09$  to  $+.46 \pm .09$ .—D. E. Johansson (Rochester).

4579. May, M. A., Hartshorne, H., & Welty, R. E. Personality and character tests. *Psychol. Bull.*, 1930, 27, 485-494.—127 titles are reviewed, bearing upon: behaviors and traits, interests, attitudes and opinions, information and ability, physiological tests and types, observation, and discussions.—J. F. Dashiell (North Carolina).

4580. Pintner, R. Intelligence tests. *Psychol. Bull.*, 1930, 27, 431-457.—A bibliography of 180 titles is reviewed, covering theoretical treatments as

well as the following widely different fields of application of such tests: school child, college student, superior, feeble-minded, races, employment and guidance, etc.—J. F. Dashiell (North Carolina).

4581. Riley, G. L. A comparison of the P. C. and I. Q. *Psychol. Clin.*, 1930, 18, 261-265.—Using Heinis's formula for the P. C. (personal coefficient), the author compares the predictive reliability of this value with that of the IQ for superior and subnormal children. About 300 cases are included. The results consistently indicate a superior predictive value in the P. C.—J. T. Metcalf (Vermont).

4582. Schlotte, F. Neues Testmaterial zur Prüfung von Schulkindern. (New test material to test school children.) *Päd.-psychol. Arbeit.*, 1929, 17, 272-280.—The author describes a picture test ("Marabu") and gives directions for its use. There is also a test consisting of a picture with contradictions and a test of incomplete sentences.—A. Busemann (Breslau).

4583. Schubert, W. Logischer Lückentest, grammatischer Test, grammatischer Lückentest, Bindwörtertest. (Logical incomplete sentence test, grammar test, grammatical incomplete sentence test, connective test.) *Päd.-psychol. Arbeit.*, 1929, 17, 280-289.—A. Busemann (Breslau).

4584. Sirkin, M. Die Bewertung von Testprüfungen. (The evaluation of mental tests.) *Zsch. f. angew. Psychol.*, 1928, 31, 310-327.—(*Soc. Sci. Abst. I*: 2475).

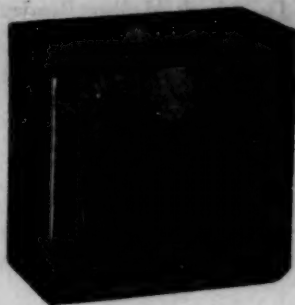
4585. [Various.] The outlook in the measurement of interests. *Person. J.*, 1930, 9, 176-183.—The research committee upon the measurement of interests was organized at a meeting of the National Vocational Guidance Association. It circularized research workers in the field of interest measurement as to suggested problems or problems actually being investigated. Some 50 problems are listed under the following general classifications: development of interests; interests and achievement; improving the interest inventory and its scoring; developing norms for the interest inventory; objective methods of measurement; rating scales; interests of abnormals; social, racial and geographic differences in interests; special guidance problems. The interest inventory in which the subject checks the things he likes, as typified by Strong's work, is rather prominent among the suggested problems. A brief paragraph is devoted to each problem.—H. E. Burtt (Ohio State).

4586. Wechsler, D. The range of human capacities. *Scient. Mo.*, 1930, 31, 35-39.—A review and analysis of data from various anthropological and psychological authorities and also from measurements of individuals in certain occupations shows that the range from most gifted to poorest is slight, and furnishes small ground for the present-day overemphasis upon individual and racial differences.—J. F. Dashiell (North Carolina).

4587. Wells, F. L. Effects of instruction on test performance. *J. Genet. Psychol.*, 1930, 37, 314-317.—Certain intelligence tests were twice applied to the same subjects, some of the latter meanwhile being coached verbally on similar tests. In general, the special instruction did not have special effect.—J. F. Dashiell (North Carolina).

[See also abstracts 4147, 4305, 4350, 4366, 4445, 4474, 4516.]

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